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ABSTRACT

Continued communication about environmental education (EE) issues is a goal of UNESCO. This document consists of the four issues of the UNESCO-UNEP Environmental Education Newsletter published in 1993. Each issue contains a lead story, followed by regular sections that report EE activities in participating countries and regions, new EE centers, upcoming conferences, and EE news and publications. The lead stories for these four issues discuss: (1) teaching global change through EE; (2) a subregional strategy for reorienting school curricula towards environment and development education; (3) United Nations (UN) cooperation for the development of EE; and (4) a UN system-wide joint action plan for EE and information. (MDH)

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UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

Vol. XVIII, No. 1, March 1993

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TEACHING GLOBAL CHANGE THROUGH ENVIRONMENTAL EDUCATION

"Education is critical for promoting sustainable development and improving the capacity of the people to address environment and development issues(...). Both formal and non-formal education are indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns. It is also critical for achieving environmental and ethical awareness, values and attitudes, skills and behaviour consistent with sustainable development and for effective public participation in decision-making. To be effective, environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development, should be integrated in all disciplines, and should employ formal and non-formal methods and effective means of communication."

Agenda 21, Chapter 36.3
(UNCED, Rio de Janeiro, 3-14 June 1992)

The earth's environment has changed more rapidly in the past generation than at any other comparable time in history, one of the primary sources of these dynamics being precipitated by human interaction with the biosphere.

Agriculture, forestry, energy production, human population increase with its socio-economic repercussions,... have been considered, to a great extent, responsible for alterations in the earth's ecosystem resulting in global warming, ozone depletion, loss of biodiversity, which are but a few of the alterations that transcend national boundaries and must needs be viewed on a global perspective.

Although some controversy is possible regarding the entire spectrum of environmental issues involved in global change, there could be a broad agreement on the key ones. The following diagramme gives an idea of the majority of the key and subordinate issues involved in global change, without trying to precise all the interactions among them which are far too numerous and complex.

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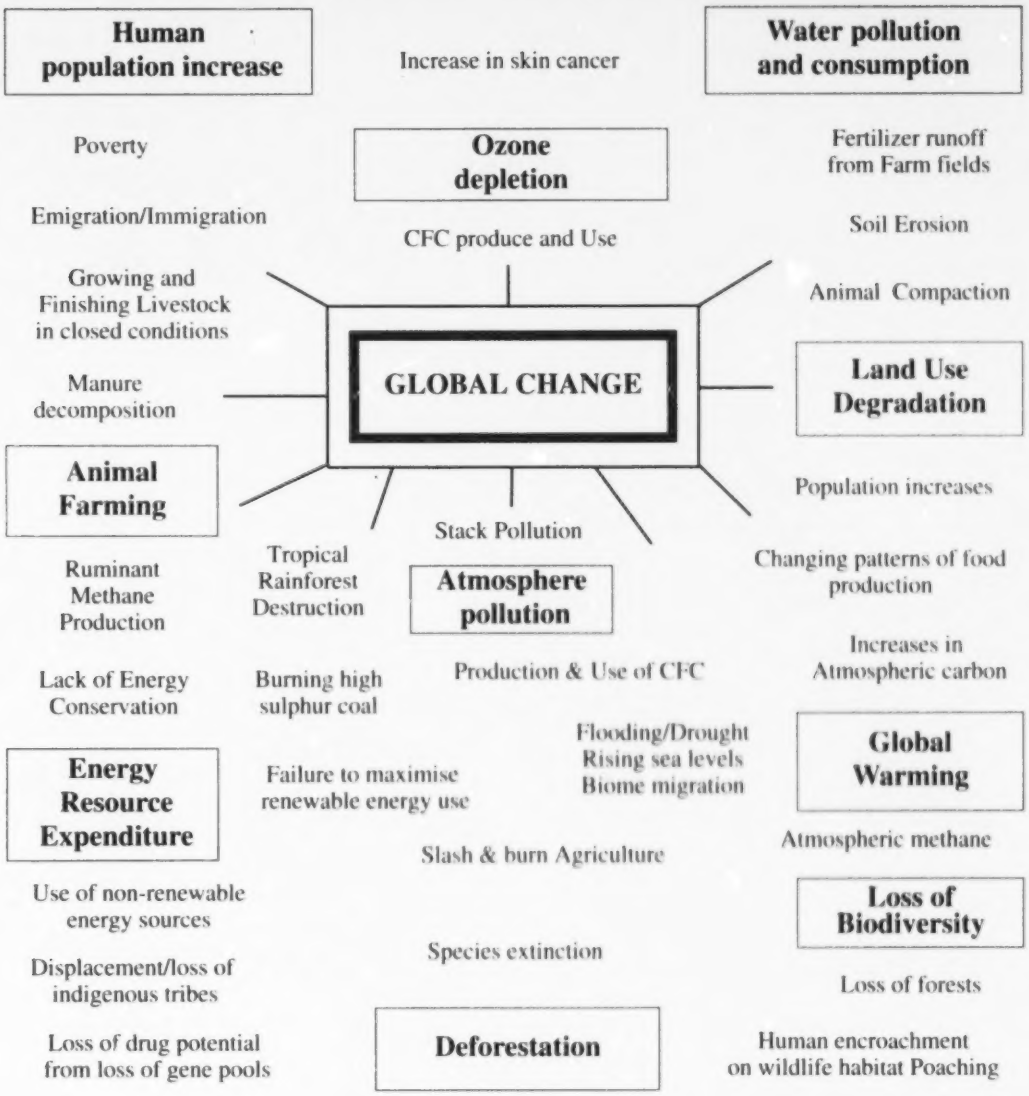
GLOBAL CHAGE AND KEY ISSUES



Some of the basic, most significant, current issues involved in the phenomenon of global change then, could be considered to be: a) global warming; b) tropical deforestation; c) human population; d) energy consumption; and e) global land use.

Global warming: Between 6,000 to 18,000 years ago a global warming of 5°C was responsible for tremendous shifts in the earth's vegetation. Recent scientific data suggest a warming trend of 3°C in the next century alone, the consequences of which can well be imagined when compared to the previous 5°C warming in 12,000 years. An unprecedented increase in the greenhouse gases, like carbon dioxide, chlorofluorocarbons, methane, etc., which are considered a major factor in the global warming phenomenon, could have disastrous short term consequences such as reduction of sea ice, rise in sea levels, regional vegetation changes etc., and the long-term damages are incalculable.

Tropical deforestation: Long considered an inexhaustible resource, the earth's forests and notably the tropical rainforests, are being rapidly depleted and degraded thanks to a variety of human interactions like agriculture, logging, ranching, fuel-wood gathering etc. In 1950 30% of the earth's land mass was covered with tropical rainforest as compared to 12% in 1975. The consequent loss of soil fertility, elimination of thousands of animal and plant species, climate variability resulting in droughts or floods, increase in greenhouse gases etc., have played a key role in the massive human displacements with dramatic consequences.

Human population: Human population growth is estimated to be one of the most important factors in increasing environmental stress, depletion of materials and energy resources, as well as an increase in solid, liquid and gaseous waste. As each eco-system has only a certain "carrying capacity", i.e. the capacity to sustain exploitation of its resources without damaging its regenerative capacity, and humans depend upon the eco-system resources for survival, it is vital to harmonize human population growth with the environmental reality – i.e. the carrying capacity of the concerned ecosystem.

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Energy consumption: Since 1900, world consumption of fossil fuels – which account for almost 85% of world energy consumption – has increased nearly 4 times as fast as world population. Major sources of fossil fuel – petrol, natural gas and coal, are expected to last for respectively 35-50, 60-80 and about 200 years. However, it is not only the depletion of these non-renewable energy sources that is cause for concern, but equally, the generation of harmful by-products due to their excessive utilization like smog, acid precipitation, petrol spills, or global warming.

Global land use: Of the 13 billion hectares of land on earth, 31% is forested, 25% is rangeland and 11% is cultivated – 33% being classified as "wasteland". As the first three categories supply a large portion of the resources utilized by humans and since the beginning of humanity, control and use of this land has been an essential aspect of human survival, the rapid growth of both human population and consumption has not only increased the variety of its uses but also the severity of the impact of the usage resulting in what is termed as land degradation and due to which the actual amount of land which can be utilized, is shrinking. In 1984 it was estimated that 35% of the earth's land surface was in peril and that approximately 6 million hectares of land were being destroyed annually, the primary causes of land degradation being overgrazing, overcultivation, salinization and deforestation leading to soil erosion, floods, loss of vegetation, droughts, desertification, poverty ...

All these global change issues, in order to be dealt with effectively, require concerted efforts on the part of all nations since the phenomenon of global change is not limited by any sort of frontiers. Unfortunately for a variety of economic, political, cultural, religious... or other reasons, it is at present difficult to arrive at sustained and harmonious world-wide action in this respect. However, if these issues are approached in a manner so as to produce educational outcomes related to changing human behaviour then, in the coming years, the direction of these behaviour changes could lead to a resolution – partly, if not wholly – of the issues.

In other words, **devising the right strategies to involve people in the search for solutions and providing them with the knowledge, the skills and the motivations is absolutely vital in dealing with the phenomenon of global change**. This could be achieved through *environmental education* whose objective is to to develop a world population that is *aware of*, and *concerned about, environment and development and associated problems*, and which has the *knowledge, skills, attitudes, motivations* and commitment to work individually and collectively toward solutions of current problems and the prevention of new ones.

Forming *environmentally responsible citizens* being its avowed goal, environmental education is a major vehicle for imparting global change instruction since, as stated earlier, the resolution – partly, if not wholly – of global change issues depends largely upon behaviour changes in humans brought about by proper education.

Of course, it is necessary not to lose sight of the fact that translating these objectives into instructional reality represents no mean task for the educator since, although traditional thinking would have us believe that knowledge leads to awareness which results in action, research findings seem to show that the process leading to responsible behaviour is not quite so direct or straightforward and that there are quite a few variables to be taken into account like cognizance of the courses of most effective action available, skill in applying knowledge to the concerned issues, a desire to act, not to mention situational factors such as economic constraints, social pressures, opportunities to choose different courses of actions etc.

Besides, in the specific case of global change instruction through environmental education, educationalists are faced with an additional challenge: making learners capable of viewing global change holistically and at the same time being able to analyse individual issues at local and regional levels. There are also a certain number of problems that arise due to (a) lack of sufficient data in certain areas; (b) doubts regarding the accuracy and significance of existing data; and (c) the variety of interpretations of certain phenomena due to differing political, economic, religious and social values.

At the school level, two major approaches, among others, are recommendable with regard to global change instruction: *Extended Case Study* and *Issue Investigation and Action.*

The Extended Case Study approach consists largely of a teacher-directed analysis of a particular issue, using both primary and secondary sources to deliver issue-focused information and skills to learners. On being oriented to the issue, learners are conducted by the teacher to investigation of the issue on a group level. Once a group decision with respect to the issue is reached, remediation can be embarked upon. This method provides flexibility and control by the teacher but also involves a lot of time, energy and skill in putting together a case study.

In contrast, in *Issue Investigation and Action* a broader and more generalized approach is employed – the intention being to develop skills in issue investigation and resolution which can be applied throughout one's life. This method provides for definition, practice and application of knowledge and skills for independent investigation and resolution of issues so as to develop autonomous investigators.

A *goal-oriented framework* could also be used as a basis for organizing instructional strategies. For example making use of simulations, models, reading etc., to lay the *ecological foundations;* case-histories, field trips, brainstorming sessions, discussions etc., for creating *conceptual awareness;* secondary source investigations, primary data collection, value clarification, moral education... for *investigation skills* and *evaluation of issues;* and action workshops, action learning in community internship, action analysis projects for *environment action skills.*

Given the vital importance of imparting global change instruction in schools and the interdisciplinary nature of the subject, the most effective way to do so would be to incorporate it into the existing curricula. However, while doing so it is essential to keep in mind certain broad principles so that the curriculum provides for:

1. An in-depth *knowledge* of issues;
2. Teaching *skills* of issue *analysis* and *investigation*;
3. Teaching citizenship skills for *issue remediation;*
4. An attempt to develop an *internal locus of control.*

In the specific setting of secondary school education, global change instruction could be "infused" into the existing curriculum, by integrating global change contents and skills into existing courses so as to focus on these contents/skills without jeopardising the courses themselves. Courses in agriculture, home economics, health, science, social studies or language arts could lend themselves perfectly well to this sort of infusion. A key component of the infusion process however, is co-operation

from the staff members responsible for the infused programmes as its effectiveness depends largely on their willingness to build together an infusion plan and see it carried out.

Conclusion: Global change, though a dramatic and potent reality for human beings, is still an extremely difficult phenomenon to conceptualize mainly because of the complexity of the dynamics and the number of issues involved. However, **if educators, keeping in mind the holistic nature of the problem as well as the interrelations of the individual issues that go to form it, set their sights on the attainment of the goals of environmental education i.e awareness, attitudes, skills, motivation, commitment and ethical responsibility, they will be well on the path to the formation of environmentally responsible citizens of tomorrow.** For it is they who will be able to outweigh the factors – whether political, economic, social or cultural – that at present prevent the implementation of effective actions to counteract the negative effects of the phenomenon of global change as well as prevent the recurrence of problems that have arisen in the past.

(The above article is almost entirely based on the draft *Environmental Education: Module on Global Change)*

National Seminar on Incorporation of EE in the Training of Basic Education Teachers, Rabat, Morocco, 13-16 July 1992

This seminar was organized in the context of IEEP activities by the UNESCO Regional Office for Education in the Arab States (UNEDBAS) and the Faculty of Educational Science of the Mohamed V University, Rabat, Morocco, where it was held from 13-16 July 1992. The 35 participants of the seminar consisted of researchers, theorists and inspectors of basic education as well as interested observers.

The objectives of the seminar were to study the traditional, ethical and esthetic dimensions of the Arab environment in general and the environmental problems facing Morocco in particular, and in this context conceive a national strategy to incorporate EE in the training of basic education teachers.

The seminar, which consisted of two sessions for presentation of papers and discussions followed by two workshops, made the following major recommendations:

- EE should be inserted into basic educational programmes for teacher training and curricula;
- Environmental topics should be integrated in various aspects of the educational curriculum and not as an independent subject;
- The importance of educational programmes with EE content for the promotion of national and cultural identity should be duly recognized;
- Scientific studies in the EE field should be encouraged;
- Meaningful educational efforts should be assured to protect the environment with suitable technology and jurisdiction;
- A reference book for EE should be devised.

Gulf Subregional Seminar on the Incorporation of EE into Secondary Level Education, Bahrain, 7-10 December 1992

This subregional seminar was organized in the context of IEEP activities by the UNESCO Regional Office for Education in the Arab States (UNEDBAS) in co-operation with the Bahraini National Commission for UNESCO and the Bahraini and Gulf Universities in response to a need felt by the Gulf Co-operation Council States (GCC) to achieve a better environmental education at the regional level, especially in view of the resolutions of the UNCED, Rio, June 1992. It was held in Bahrain from 7-10 December 1992 and was attended by 30 participants from **Oman, Saudi Arabia, United Arab Emirates, Kuwait and Bahrain** as well as representatives of the GCC States Secretariat-General, UNEDBAS and UNEP.

A number of interesting presentations were made during the seminar including "Environmental concepts and problems of students and Educators at the Secondary level in Bahrain"; "Communication contribution and the role of media in environmental awareness to promote non-formal EE"; "Environmental Education: Anthropological and patrimonial dimensions and ways of promoting belongingness to the environment through the preservation of the Arabic cultural identity".

The major recommendations of the seminar were:

- Objectives, contents and methods of the present curriculum should be evaluated in the light of EE needs and infusion of EE concepts and contents gradually through subjects of different disciplines;

- Courses in EE should be elaborated which respond to the regional project in terms of:

  - the patrimonial, ethical and esthetical dimensions of the environment;
  - studying the environment and its problems; and
  - treating environmental themes in an integrated holistic and multi-functional form with respect to its concepts, development and its effect on man and the natural, socio-economic environment and handling it according to the level and needs of the students from the national, regional and international point of view.

- Universities and specialized educational institutions should be invited to train competent educators in EE dimensions to ensure proper implementation of EE concepts;

- School libraries should be provided with books and periodicals related to the environment;

- Various out-of-shool activities and programmes should be organized at all levels to train students to handle domestic environmental problems;

- Co-operation between educators and specialists in communications and EE should be promoted using different mass-media to present environmental themes to the various social strata as well as students of all levels;

- GCC Member States should be invited to formulate, in cooperation with regional and international organizations, a unified strategy to infuse and incorporate EE in field practices in collaboration with competent EE professors of GCC universities;

- Field research should be implemented to:
  - discover the concepts, behaviours and trends of students at different educational levels as also social receivers in curriculum reform; and
  - enhance the role of national associations, scout and science clubs to implement awareness in nonformal EE;

- The role of educational research in the execution of activities aimed at evaluating EE in both formal and nonformal education should be enhanced;

- Co-operation, co-ordination and document exchange between different institutions at national and regional levels should be promoted, regional information networks for the exhange of documents and materials should be established and cooperation between UNESCO and UNEP in different fields of EE should be enhanced.

XIIth Session of the ICC for the MAB

The XIIth session of the International Co-ordinating Council (ICC) for the Programme on Man and the Biosphere (MAB) was held at UNESCO Headquarters in Paris from 25-29 January 1993.

It was attended by representatives from 24 member countries of the Council elected by UNESCO's General Conference as well as observers from 26 other Member States of UNESCO, representatives of U.K. and U.S.A. National MAB Committees and the International Union of Biological Sciences (IUBS), the Scientific Committee on Problems of the Environment (SCOPE), the Arab League for Education, Culture and Science (ALECSO) and the MacArthur Foundation.

In his opening address Mr F. Mayor, Director-General of UNESCO, noted with satisfaction that the MAB Bureau had fully approved the main areas outlined by UNESCO's Executive Board as UNESCO's contribution to the implementation of Agenda 21 of the United Nations Conference on Environment and Development (UNCED). He also laid great emphasis on the importance of this session as its recommendations would be presented to UNESCO's General Conference later this year and would contribute to the preparation of the draft Medium-Term Plan for 1996-2001.

The main topics to feature on the agenda were the reports on national activities of regional/international relevance; Syntheses of substantive results of MAB 1971-1992; Report of the first meeting of the Advisory Committee on Biosphere Reserves; Data base and documentation for biosphere reserves as well as Future planning of MAB (1996-2001) based on the UNESCO response to the UNCED (Rio de Janeiro, June 1992).

On 26 and 27 January, a 1½-day scientific symposium was held on "Integrating conservation, development and research: Scientific responses to the environment-development challenge", aimed at contributing to the planning of future UNESCO activities related to environment and development in the light of the conclusions and follow-up to UNCED.

A film festival entitled *Les Jardiniers de la Terre*, featuring films on the environment, was also held in the premises on 26-27 January.

The major recommendations made by the Council at the end of the XIIth session were that the MAB Programme should consist of the following themes:

1. Conservation and sustainable use of biodiversity;
2. Exploration of approaches to sustainable development in regional units;
3. Communication of information on environment and development and promotion of environmentally sound behaviour;
4. Building up of capacities and fitting institutional functioning and training to emerging problems of environment and development;

together with a complementary theme – Contribution to the study of global change.

Regarding the International Biosphere Reserve Network the principal recommendations of the Council were that:

- MAB national committees should implement as appropriate the recommendations of the 1st meeting of the Advisory Committee on Biosphere Reserves in consultation with the biosphere reserve managers and associated administrative authorities; and that

- MAB national committees and government authorities should integrate biosphere reserves in their national biodiversity strategies and action plans;

Other notable recommendations made by the Council related to:

- **Syntheses of past MAB projects** which should be targeted at the scientific community and policy makers;

- **Regional co-operation** which should be fostered and strengthened through MAB national committees and with support from the MAB secretariat through UNESCO's regional offices;

- **Coastal areas and small islands** in which relevant activities should be undertaken within the framework of the MAB Plan.

NEW ENVIRONMENTAL EDUCATION CENTRES

A new environmental education centre, the CPR Environmental Education Centre, has been established in Madras jointly by the Indian Ministry of Environment and Forestry and the C.P. Ramaswami Aiyar Foundation, with the objective of increasing awareness and knowledge about the environment and the major environmental problems facing India today.

It has been conducting a variety of programmes on environment and ecology to arouse public interest, specially among NGOs, women, youth and children, with the purpose of promoting conservation of nature and natural resources.

The Centre lays special emphasis on the following topics:

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a) Land and water management
b) Propagation of sustainable technologies and alternate energy sources
c) The role of each life form in the ecological chain
d) Wasteland development (through NGOs and women)

To achieve its objectives the Centre utilizes, among others, the following means:

1) Training in schools and colleges for students and educators
2) Resource material generation
3) Exhibitions and cultural programmes
4) Research and development
5) Library and data bank facilities
6) National environment awareness campaigns

The CPR Centre has just brought out a pack containing illustrated, easy-to-read, factual booklets and posters on Water, Trees, Land Management as well as a rotative paper-disc on Birds – all intended for primary schoolchildren.

Enquiries/information:

CP Ramaswami Aiyar Foundation, 1a Eldams Road, Madras 600 018, India.

[Newly established environmental education centres are invited to send information on their aims, objectives and achievements to the **Environmental Education Unit** (address on last page) for eventual publication in these columns]

A WORKSHOP TOWARDS A SOUTH AND SOUTH-EAST ASIA NETWORK FOR ENVIRONMENTAL EDUCATION (SASEANEE)

Organized jointly by the Centre for Environmental Education (CEE), Ahmedabad, India, and the World Conservation Union (IUCN), this workshop was held at the CEE Headquarters in Ahmedabad from 10-12 February 1993.

The main motivation behind this workshop was the realisation that since the countries of the South and South-East Asia region share many developmental, environmental and educational concerns, an exchange of experiences would enhance the quality of environmental education in the region. Its objective was to bring together people and organisations involved in environmental education to discuss and exchange ideas, resource materials and methods, and especially consider the need for a South and South-East Asia Network for Environmental Education (SASEANEE), exploring the possibility of formalizing such a network, defining its role, structure and management.

The major topics examined in the workshop were:

- Networking needs;
- Higher education;
- Non-formal education;
- Development of resource materials;
- Human resource development;
- Strategies for communication and education for the environment; and
- The role of the media.

In each topic, existing conditions were studied, precise needs for networking explored and a set of possible recommendations listed for examination and study by the participants. For further information contact: **Centre for Environment Education**, *Nehru Foundation for Development. Thaltej Thekra, Ahmedabad 380 054, India. FAX 91-272-46.73.42.*

EE NEWS AND PUBLICATIONS

The **Council of Europe** officially launched "Freshwater Europe" at the 44th session of its Parliamentary Assembly which took place from 30 September to 8 October. *Freshwater Europe*, a wide-ranging multidisciplinary exercise about problems connected with water resources, aims to make the general public aware of everyone's responsibilities in the matter of water management and to help the countries of Central and Eastern Europe to choose a management system that meets their specific needs. The Assembly also adopted a recommendation underlining the need to intensify international co-operation on environmental issues, besides advocating further development of the Council of Europe's action programme on environmental protection, especially where it speaks of promoting information, education and public awareness.

In its newsletter **Naturopa** no.92-11, a new publication, the Proceedings of the first Colloquy "Environmental Law: East and West", held in Budapest, 14-15 November 1991, is announced. The colloquy was part of an endeavour by the Council of Europe to introduce environmental law teaching in university curricula in Eastern Europe, to participate in the formulation of national legislation on different aspects of environmental law and to promote the Europe-wide harmonisation of such legislation. The proceedings can be purchased from the *Publication Service, Council of Europe, BP 431 R6, F 67006 Strasbourg Cedex, France.*

Naturopa has also brought out a special Baltic countries issue, (no. 92-2) containing interesting articles such as "Landscapes and Nature Conservation in Latvia", "Estonia – A Green Land in Europe", and "Lithuania – A world of Lakes and Rivers". For those interested, write to: *Centre Naturopa, Boîte postale 431 R6, F-67006 Strasbourg Cedex, France.*

Future Events:

Energy Saving and Alternative Energy Sources Exhibition (RACIOENERGIA). Sponsored by the United Nations Economic Commission for Europe (UNECE), this exhibition will be held in Bratislava, Czechoslovakia, in October 1993. For further information write to: *UNESCO*

Vienna Office, Vienna International Centre, Wagramerstrasse 5, Vienna 22, Austria.(FAX: 43.1.219.16.52)

25th International Symposium on Remote Sensing and Global Environmental Change – Tools for Sustainable Development, Graz, Austria, 4-8 April 1993. For information write to: *ERIM/International Symposium, P.O. Box 134001, Ann Arbor, MI 48113-4001, U.S.A (FAX: 313.994.5123)*

8th International Earth Education Conference, Camp Wanakita, Haliburton, Ontario, Canada, 29 September-3 October 1993. For information write to: *International Earth Education Conference, c/o Hamilton YMCA, 79 James St. South, Hamilton Ont. L8P 2ZL, Canada.*

Summer Institute for Environmental Values Education, Ottawa, Canada, July 1993. For educators of all backgrounds wanting to improve their ability to teach about the environment and its protection. Further information from: *Deb Hine/Kris Wong, Harmony Foundation of Canada, 501-225 Metcalfe Street, Ottawa, Ontario K2P 1P9, Canada.*

The Coastal Resources Centre at the the University of Rhode Island will be sponsoring two international training programmes in 1993-94. The first, **Manejo de Areas Especiales en Zonas Costeras** will be conducted in Spanish and will be held at the Escuela Superior Politecnica del Litoral in Guayaqil, Ecuador, from 25 April-8 May 1993. It is directed at resource management professionals and environmental planners in the Latin American and Caribbean regions and its purpose is to provide participants with practical skills to design and implement special area management plans for coastal areas and environments.

The second, **The Summer Institute in Coastal Management**, will be held at the University of Rhode Island campus, U.S.A., from 30 May-24 June 1994. Directed at a global audience, it will emphasize how to design and implement coastal resources management programmes at the national and local level.

For further information write to: *The Training Co-ordinator, Coastal Resources Center, The University of Rhode Island, Narrangensett Bay Campus, Narrangensett, RI 92882, U.S.A (FAX: 401.789.4670).*

An International Conference on the theme of **Environmental Education Centres in Germany and the future Europe** is scheduled to take place in Germany from 24 to 28 May 1993. For information contact: *Aktion Fischotterschulz eV, Otter-Zentrum, 3122 Hankensbüttel, Germany.*

Training and Education:

Research and Conservation in East Africa: The non-profit-making Society for Environmental Exploration is looking for volunteers – i.e. research assistants contributing to expedition costs – for its environmental research projects in various African countries. Three of its current projects are centred on the coastal forests and coral reef systems of Tanzania and on an area of tropical rainforest in Uganda. Each project is organized in three-month "phases" or camps of about 20-25 people and runs for several years. Further information from: Frontier, *Society for Environmental Exploration, Studio 210, 566 Cable Street, London E1 9HB, U.K.*

Environmental Education in early childhood: A newly formed organization focuses on the development of programmes in early childhood environmental education. The network is designed to be international and multicultural in scope and to promote environmental education in early childhood, to provide opportunities for professional development and foster positive environmental attitudes in young children. For information contact: *Dr Ruth Wilson, 418 Education Building, Bowling Green State University, Bowling Green, Ohio 43403-0255, U.S.A.*

Losehill – A centre of excellence for environmental training, management and education – will be organizing a training seminar entitled "**Environmental Education, Interpretation and Training**" meant for Rangers, Wardens and Interpreters, to be held from 19-24 September 1993, at Losehill Hall, Derbyshire, U.K. For details contact: *Peter Townsend, Director, Losehill Hall, Castleton, Derbyshire S30 2WB, U.K. Tel: 0433 620373 Fax: 0433 620346.*

A game on Waste Management: "Freedom to breathe in your neighbourhood" is the name of a game designed to make children, young people and their families aware of their collective responsibility for waste management. Information from: *Agence Olympio, 24 rue G. Lapostol, 92150 Suresnes, France. (FAX: 33-42.04.01.80).*

Conference/Meeting Reports:

The detailed report of the UNRISD **Conference of the Social Dimensions of Environment and Sustainable Development** held at Valletta, Malta from 22-25 April 1992, entitled *Development, Environment and People*, has just been published. The conference, jointly organized by the United Nations Research Institute for Social Development and the Foundation for International Studies of the University of Malta, was attended by 80 participants from 31 countries. Key research findings and policy recommendations to emerge from the conference were on Social dimensions, Women, Rights to Land and other Natural Resources, Population, Land Resource Management and Conservation Programmes. For further information contact: *Adrienne Cruz, Programme Information, UNRISD, Palais des Nations, CH-1211 Geneva 10, Switzerland.* ◆ Round Table on **New Frontiers for Designing and Implementing Environmental Education Programmes**, Colombo, Sri Lanka, 2-6 August 1992. Report available from: *Mrs Lucille O. Gregorio, UNESCO-PROAP, 920 Sukhumbit Road, Bangkok 10110, Thailand.* ◆ National Workshop on the theme **For a National Environmental Policy in Benin**, Cotonou, 30 March-3 April 1992. Report (in French) available from: *Plan d'Action Environnemental, Ministère de l'Environnement de l'Habitat et de l'Urbanisme, B.P. 040071, Cotonou, Benin.*

Publications:

INFOTERRA, the international environmental information system of UNEP, has just brought out its 15th Anniversary folder containing a new brochure on *INFOTERRA, a commemorative book INFOTERRA – 15 Years of Making a Difference*, and an INFOTERRA press release. The attractive colour brochure gives an overall view of the various activities, services, structure and functioning of INFOTERRA whereas the commemorative book lists INFOTERRA's achievements in the 15 years of its existence in a variety of domains such as Terrestrial Ecosystem Management; Oceans and Coastal Areas; Environmental Awareness; Environmental Legislation; Atmosphere... to name but a few. INFOTERRA has also brought out its new National Focal Point Address Directory listing the addresses of INFOTERRA Focal points throughout

the world. For further information write to: *INFOTERRA PAC, UNEP, P.O. Box 30552, Nairobi, Kenya.* ◆ **Our Planet**, Vol. 4, No. 6, 1992, is out. Illustrated with beautiful colour photographs, it features articles such as "Hunger versus the Environment", "Solar Bizz in Malawi", "Saving the Tree that makes Music" apart from an interview with UNEP's Executive Director, Dr Mustafa Tolba, and UNEP news. For a copy/information write to: *Circulation Manager, Our Planet, UNEP, P.O. Box 30552, Nairobi, Kenya.* ◆ The GREEN (**Global Rivers Environmental Education Network**) Project of the University of Michigan has published Vol. IV, No. 4 of its newsletter. For those interested, write to: *Projet GREEN, 216 S. State St., Suite 4, Ann Arbor, MI 48104, U.S.A.* ◆ **Environment Update**, the official two-monthly newsletter of the New Zealand Ministry of Environment, is available free on writing to: *Head Office, Grand Annex, 84 Boulcott Street, P.O. Box 10-362, Wellington, New Zealand. (FAX: 04.471.0195).*

Children's Edition of Agenda 21

The response to our request for help in this project, featured in our last issue, has been most encouraging. Schools and environmental groups in over 50 countries are now hard at work summarizing the contents of Agenda 21, finding case studies of situations where the Agenda is being implemented, or needs to be implemented, and doing paintings, drawings and cartoons to illustrate phrases and ideas in the text.

We still need more help. Part Two of the project begins in May with the completion of the first draft. Many unanswered questions about the exact meaning of the Agenda will remain. We shall seek bright, responsible groups of children to go with their teachers to university professors, government officials, and/or environmental experts to find answers and discuss with them what parts of the Agenda are most relevant to their country.

We shall also need more concrete examples of situations and incidents which directly relate to the provisions included in Agenda 21. It is written in a very general, theoretical way – it only becomes comprehensible to young people – and adults – when the generalities can be related to real-life examples.

We shall always need more student painters and illustrators: some of the most delightful and memorable things in the Children's Edition will be the superbly imaginative drawings and paintings created by children to illustrate the key concepts in Agenda 21. We can never have too many of these to choose from. Even if they are not used in the book, they will be retained for exhibitions in promotion of the Agenda and in possible future Children's Edition of individual national Agenda 21s. These are being discussed as part of the UN Development Programme's Capacity 21 programme.

Finally we need the opinions of children and their teachers in different parts of the world on the structure, style and content of the draft edition. We are committed to having it ready by October, thus we have no time to conduct extensive tests of the book in classroom situations. We therefore need immediate evaluations from teachers and students: what's missing from it? What seems irrelevant? Are there any things they do not understand? What could make it more useful to them?

Part Three of the project will be the Editorial Meeting. This will be held in England from 2-23 August 1993. We seek talented student writers, editors and graphics artists from different nations, with a good command of English. Scholarships will be available for those coming from developing countries. Any student, aged 14-19, who wishes to be considered as a candidate for this meeting should apply directly to: David Woollcombe, Peace Child International, Little Maltings, Much Hadham, Herts SG10 6AW, U.K.

SPECIAL REQUEST

Dear reader,.

You are cordially invited to send us some of your most successful teaching and learning experiences (concrete activities) in environmental education. Selected activities will be published in a new section entitled ***Doing it and Telling it***.

Each experience should include: 1) **Title**; 2) **Place** (urban/rural locality and country); 3) **Target groups;** 4) **Introduction** (maximum 70 words); 5) **Objectives** (two or three); 6) **Resources** (human and material); 7) **Methodology** (procedures); 8) **Manner of evaluating** the experience; and 9) **Relevant results**.

At the end of each experience please include name and address of the author, which will also be published.

Contributions should be addressed to:
Doing it and Telling it
Environmental Education Unit
(address below)

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UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

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A SUBREGIONAL STRATEGY FOR REORIENTING SCHOOL CURRICULA TOWARDS ENVIRONMENT AND DEVELOPMENT EDUCATION

" A thorough review of curricula should be undertaken to ensure a multidisciplinary approach, with environment and development issues and their socio–cultural and demographic aspects and linkages. Due respect should be given to community–defined needs and diverse knowledge systems, including science, cultural and social sensitivities;"

"Countries should cooperate with each other (...) to prepare educational tools that include regional environment and development issues and initiatives using learning materials and resources suited to their own requirements;"

Agenda 21, Chapter 36, UNCED, Rio,1992

Subsequent to the growing need felt by the international environmental education community over the years, the UNESCO–UNEP International Environmental Education Programme (IEEP) had evolved a regional strategy for developing environmental education (EE) curriculum prototypes for primary and secondary schools as well as pre–/in–service training of school teachers, taking into account the physical, biological, social, cultural and economic dimensions of the environment in an integrated manner.

The IEEP approach, following recommendations of both the Tbilisi Conference (1977) and the Moscow Congress (1987) and shared by a number of educational and environmental institutions and ministries of UNESCO Member States, is based not only on the fact that countries belonging to a region generally share a number of characteristics, but also that they only stand to benefit from a mutual exchange of information, resources and competences leading to the harmonisation of the means and methods used to educate the public as regards the environment and environmental and development issues.

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However, given the fact that certain regions present a very large spectrum – on the geographic, socio–cultural, political, economic scale – it might be more practical to start on a **subregional** basis, since this presents the advantage of dealing with smaller groups of countries capable of presenting greater homogeneity in terms of environmental as well as educational, socio–cultural, economic and other contexts.

The logical starting point for any action in the matter of educating the public being educational institutions, schools – primary and secondary, stand out as the first target group with universities and specialised technical/vocational institutions forming the next step in the ladder. Given the fact that the integration of environment and development issues into education is a comparatively new phenomenon in many parts of the world, it is likely that most school teachers themselves lack a systematic pre–/in–service training in this area. Thus it would be advisable to use **a two–pronged approach focusing on the students on the one hand and the teachers on the other in order to ensure maximum effectiveness regarding the teaching/learning processes.**

With this approach in mind, workshops/seminars can be organized on a subregional basis in collaboration with competent specialised educational and government institutions with the intention of reviewing existing school curricula in order to accord environment and development issues their proper place in view of present–day realities of education. The participants – a variety of local, national and regional educational and environmental experts – can be asked to reflect upon, discuss and propose ways and means best suited to evolve curricula presenting **environment and development education in its veritable interdisciplinary character** and specifically intended for the concerned subregion. Participants as well as observers from other parts of the world would serve not only to provide an "external" point of view but to take back with them valuable information to be used in the context of their own particular regions. Subsequently workshops/seminars organised in other subregions could serve to further review the work acomplished in earlier workshops/seminars thereby providing opportunities for constant up–dating and revisions, if necessary.

Concretely, these workshops/seminars would result in the production of adaptable prototypes for the subregions in question which integrate, on an interdisciplinary basis, environment and development issues in school curricula as well as in the pre–/in–service training of school teachers keeping in mind not only the existing curricular framework but also the educational characteristics of the countries concerned.

The objective of these prototypes would be to provide, by means of **closer international cooperation, a common base in environment and development education to countries of a subregion, which share a number of environmental, socio–cultural, demographic, development... characteristics** as well as to contribute in **developing teaching/learning activities based on environment/development issues in an integrated manner in order to bring about a harmonisation of attitudes and approaches in dealing with environment and development issues**.

For it is evident that **though individual effort on the part of nations can lead to constructive attitudes and actions beneficial to the environment and development within the country, without a similar effort on the part of the neighbouring countries a considerable amount of the individual effort is likely to be wasted**. Thus, what is fundamentally important in a constructive global attitude towards environment and development is **collective, concerted and harmonious effort on the part of all nations in general, starting, in particular, with those that are linked by geographical, socio–cultural, historical... ties.**

The UNESCO–UNEP International Environmental Education Programme (IEEP) has developed a certain number of subregional EE curricular prototypes for schools and school teachers of Africa, the ASEAN, the Arab States, and the Caribbean of which some are in the process of a final updating in view of the UNCED recommendations. The IEEP is not only disposed to but would gladly collaborate with educational/government institutions to initiate/review the integration of environment and development issues into education programmes on a national or international scale.

The following four prototypes are an example of the work accomplished in this direction by the UNESCO–UNEP International Environmental Education Programme (IEEP) in the ASEAN subregion in collaboration with the Curriculum Development Centre (CDC) of the Ministry of Education Malaysia and the Institute for Science and Mathematics Education Development (ISMED) of the University of the Philippines.

EE CURRICULA FOR PRIMARY AND SECONDARY SCHOOLS AND PRE–SERVICE TRAINING OF PRIMARY AND SECONDARY SCHOOL TEACHERS OF THE ASEAN REGION

The ASEAN (Association of South–East Asian Nations) comprising Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand, has a number of geographical, historical, cultural, social, educational... and environmental features in common. Prototype EE curricula for primary and secondary schools as well as for the pre–service training of primary and secondary school teachers have thus been developed for the sub–region which can be easily adapted to the needs of each country. For this the ecological and

socio–cultural characteristics as well as the goals, objectives, methods and general guidelines of EE together with a short description of each of the countries of the sub–region has been provided. The environment and development problems faced by each country are also noted together with the existing contents and approaches of programmes at school level.

In the *prototype for primary school curriculum* the acquisition of the 4 goal–levels : **ecological foundations; conceptual awareness, investigation and evaluation; and issue resolution skiil** are the basis upon which the curricular dimension is constructed. The content is divided thematically into **Living things and their needs; Interaction between humans, plants and animals in the environment;** and **Proper management of the environment**. The themes in the ASEAN context, teaching/learning strategies and activities, methods of evaluation as well as possiblities of infusion into other subjects are all treated thematically with examples of infusion meant for specific grades.

The *prototype for the pre–service training of primary school teachers*, which has been prepared in conjunction with the *prototype for primary school curriculum*, contains the goals, objectives and contents of pre–service teacher training curriculum in addition to the basic information on EE and the sub–region, together with implementation strategies for adapting this curriculum and evaluating it. Examples of use and adaptation of contents and methods as well as activities and guidelines for evaluation are also provided.

In the *prototype for secondary school curriculum* a multidisciplinary approach has been adopted for the EE curriculum and five themes: **land, water, air, energy resources** and **life** have been selected for the infusion of EE into three basic disciplines: **Science, Social studies, and Values and Moral education** as well as other disciplines such as the Arts, Humanities and Communication arts.

Examples from each theme are listed with possibilities for discipline–, as well as grade–, wise infusion. Environmentally oriented lesson models are proposed in a variety of disciplines in order to clarify the strategies for integrating EE concepts into existing curricula. Finally, a certain number of methods are suggested to evaluate EE programmes in terms of aims and objectives, contents, suitability of the topics, teaching methods etc.

The *prototype for the pre–service training of secondary school teachers* has been written with the assumption that most teachers received teacher training when EE was practically unknown and even though they may treat environmental issues in their subjects, their interdisciplinary aspect is likely to escape them if they do not receive proper training in EE. Thus this prototype, after examining the existing pre–service curricula and requirements for secondary school teachers in the sub–region, proposes modifications to facilitate the integration of EE describing the courses intended for the purpose. Further, examples of lessons and activities for pre–service education are given ending with sample assessment instruments for cognitive/non–cognitive aspects of EE.

(The two prototypes for primary school and primary school–teachers have been prepared by the Curriculum Development Centre of the Ministry of Education Malaysia in cooperation with the IEEP and the two prototypes for secondary school and secondary school–teachers have been produced by the Institute for Science and Mathematics Education Development of the University of the Philippines in cooperation with the IEEP)

FIELD ACTIVITIES

ENVIRONMENTAL ETHICS: A DIALOGUE OF CULTURES

A consultative national syposium on Environmental Ethics was organized from 1–3 March 1992 in New Delhi, India, by the Sustainable Development Foundation, New Delhi, and the Gandhi Bhavan, University of Delhi in collaboration with the UNESCO–UNEP International Environmental Education Programme (IEEP), the Commonwealth Human Ecology Council, London, and the Gandhi Smriti and Darshan Samiti, New Delhi.

Over 100 national and international experts took part in this symposium which was also attended by eminent Indian political and educational personalities.

The symposium was centred on the belief that Environmental Ethics, being an internalized code of behaviour that produces an ecologically sound development process, has the potentials to help create a social order which protects nature and basic human rights at the same time, capable of integrating economy and ecology, material and ethical progress, science and spirituality.

The need to examine tiic ethical foundations which lead people in different cultures/stituations to interact with nature producing constructive or destructive processes, was felt to be all the greater, as science and technology have placed enormous power in the hands of humans but without a moral code of conduct. And what humans will do to their environment depends more on their values than anything else.

The work of the symposium was divided into 9 sessions devoted to:

- Philosophical Foundations of Environmental Ethics

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- Environmental Ethics and the Emerging World Order
- Law and Environmental Ethics
- Tribal and Rural Experiential Knowledge and Environmental Ethics
- Culture, Religion and Environmental Ethics
- Population Growth and Environmental Ethics
- Science, Technology and Environmental Ethics
- Education and Environmental Ethics
- Development Styles and Environmental Ethics

The main recommendations to emerge from this symposium were as follows:

- A cross–cultural dialogue should be established to promote empathy between humans and nature and amongst humans themselves;
- Industrialisation, urbanisation and population growth should be adjusted to conform to the laws of ecology to avoid environmental pollution and economic poverty;
- A new system of ethics emphasising concern for life in whatever form it exists in nature should be adopted;
- More research should be done on the junction and disjunction between laws and ethics so that each can support the other;
- All channels throughout the world should be used to educate the people about environment sensitive values with the IEEP continuing to give the lead in this direction;
- An international code of environmental ethics, sensitive to the inequities in today's world, must be created and adhered to by all countries;
- Globalisation of economy and ecology should not be used as pretexts to impede the future development of poor nations;
- Instead of using science and technology as scapegoats, introspection and change of values should be resorted to in order to free society from pollution and poverty;
- Voluntary organisations over the world should make use of ethical codes of different communities, cultures, religions, etc., and be more directly involved in the search for practical and equitable resolutions of development dilemmas;
- Ways to integrate science and spirituality should be sought as a solution for problems of the future.

Proceedings of the symposium have been prepared in two volumes, of which the first, entitled **Environmental Ethics: A Dialogue of Cultures**, giving a gist of the discussions, deliberations and comments of the participants, as well as the conclusions and recommendations of the symposium, is available on request from *Sustainable Development Foundation/Gandhi Bhavan, University of Delhi, 32 Chhatra Marg, Delhi–110 007, India*. The second volume, entitled **Environment and Development: Ethical Issues**, containing the background papers of the symposium, is under preparation.

NATIONAL PLANNING CONFERENCE FOR ENVIRONMENTAL EDUCATION

BOTSWANA

A National Planning Conference for Environmental Education was held at the University of Botswana in Gaborone, Botswana, from 7–11 October 1991. The conference, which was sponsored by the Ministry of Education of Botswana, the University of Botswana and the Kalahari Conservation Society together with UNESCO, SIDA and USAID, brought together environmental educators from throughout Botswana, other parts of Africa as well as North America and Europe – a total of about 200 partcipants. The aim was to plan the way forward for environmental education in Botswana in the areas of primary, secondary, tertiary and non–formal education with a view to consolidating the work that had already been done and to design new initiatives for those areas not yet fully involved in environmental education. Specific objectives of the conference were:

- to provide background information on environmental education in general, the educational and environmental problems worldwide and in Botswana;
- to review the position of environmental education in all sectors of education in Botswana today and to generate recommendations for the future;
- to identify constraints to the improvement of environmental education in each sector;
- to evaluate training, research and coordination needs; and
- to draft an action plan.

At the conference itself a number of papers were presented on various aspects of environmental education in general as well as on the environmental education situation in Botswana as also in neighbouring countries like Kenya, Zambia, Zimbabwe and Swaziland. The ensuing discussions and workshops led to the recommendations of the Conference of which the principal were the following:

Curriculum:

- National goals for EE teaching should be clearly stated;
- An EE curriculum should be developed and integrated into present subjects;
- Specific objectives should be formulated with regard to acquiring knowledge, awareness, and developing investigative, action and evaluation skills;
- Research programmes on environmental issues and education should be established.

Teacher training:

- EE in–service teacher training should be provided based on an assessment of the needs;
- A set of basic EE competencies should be formulated for all secondary school teachers.

Non–formal education:

- Organisations should cooperate to make use of existing non–formal education programmes and infrastructures before developing new initiatives;
- Training in non–formal EE should be provided to both trainers and trainees;
- A national policy on non–formal EE should be formulated, supported by adequate legislation.

Actions:

- EE workshops should be provided for academic staff;
- Competitions, prizes, entertainment should be organised to reward positive student actions;
- Funds should be sought for EE programmes and support systems for their implementation.

GLOBAL FORUM ON ENVIRONMENTAL EDUCATION FOR SUSTAINABLE DEVELOPMENT

Under the sponsorship of UNESCO, Canadian International Development Agency, NORAD, SIDA, IRDC (Canada), the Kazan State University (Russian Federation) and a number of national organisations, the Indian Environmental Society together with the Asian Environmental Society is organising a Global Forum on Environmental Education for Sustainable Development which is due to be held in New Delhi, India, from 24–28 September 1993.

The forum is planned as a follow–up to the Earth Summit held in June 1992 in Rio de Janeiro, Brazil, and has for its main objectives the development of programmes and action on sustainable development as well as the establishment of a network between environmental and development educators.

Keynote addresses will be made on Environment and sustainable development; Environmental policies and plans; and The role of NGO's in promoting sustainable development. The international dimensions of EE for sustainable development; Urban development and implications for EE; Legislation and environmental rights; Energy and environmental education; Women, environment and sustainable development; Sound use of natural resources; Population, Environment and Development are some of the major topics which will be discussed at the forum together with Roundtables on Environmental Ethics; EE for sustainable development and the UNESCO/UNEP International EE Programme (IEEP).

An Environmental Fair and an Exhibition of environmental and development education materials will also be held at the forum.

For details write to: *Indian Environmental Society, U–112,(3rd Floor), Vidhata House, Vikas marg, Shakarpur, Delhi–110 092, India. Tel:(91–11) 222–3311 Fax:(91–11) 331–7301.*

THE NORTH SEA PROJECT

The North Sea Project, which was officially launched 17–20 March 1993, in Grimstad, Norway, is an international environmental education project sponsored by IEEP involving the following countries: Belgium, Denmark, France, Germany, Netherlands, Norway, Sweden, U.K. and Iceland.

The project is based upon the recommendations of the Tbilisi (1977) and Moscow (1987) conferences, proposals from Agenda 21 (UNCED, Rio, 1992), as well as experiences from other international EE projects such as the Baltic Sea Project, North Sea activities like Coastwatch, Information Network in Science and Technology Education (INISTE), and Associated Schools Project (ASP).

The aims of the project are to enhance awareness of environmental issues related to and within countries bordering the North Sea; to develop an awareness that national activities have an impact far beyond national boundaries; and to encourage raised skill in cross–faculty cooperation, conflict handling, project work and outdoor training as well as cooperation between schools and scientists, political bodies, industries and interest groups.

An umbrella structure encouraging individual and independant programmes to be run nationally but within an agreed framework, the North Sea Project seeks to encourage, within an educational framework, not only the interchange of scientific and cultural information and ideas between countries associated with the North Sea but also the development of local initiatives as well as core activities such as training in observation, collection, analysis and publication of data, results and conclusions, within the participating countries. It will work with existing information networks complementing existing educational activities and will be supported by modern technology networks. All information from this project will be treated as public information.

The International Consultative Group will act as the steering committee and be composed of one representative from each participating country together with a rep-

resentative from UNESCO for IEEP. It will hold yearly meetings, starting with March 1994, to evaluate preceding activities, plan new ones, approve project proposals and discuss policy issues.

Newsletters will be published twice yearly, starting with Spring 1993.

Two international sub–projects – one based on a Norwegian school project on ocean monitoring (HOVIS) and the other on a Dutch–French project on satellite images (North Sea Project 12–16) have been planned so far.

NEW ENVIRONMENTAL EDUCATION CENTRES

NATIONAL CENTRE FOR ENVIRONMENTAL EDUCATION IN THE CZECH REPUBLIC

The Czech National Center for Environmental Education (NCEE), recently established in Prague, is a non–profit, non–governmental organisation whose ultimate goal is to create the essential conditions for positive change in the environmental field – i.e. a concerned population with a positive attitude towards environmental problems, necessary for the adoption and enforcement of environmental legislation.

The NCEE forms part of the Foundation for Environmental Education EVA, founded in 1991, in response to the critical need for cooperation, information and exchange of experience and materials in environmental education. The EVA has already a variety of activities in the field of environmental education to its credit like cooperation in the development of a long term strategy of EE for the PHARE II programme and WWF International project; collaboration in organising courses in teacher–training schools; publication of EE materials; compilation of databases on schools involved in EE etc.

The NCEE, which has a small office in Prague serving as a specialized library and methodological information centre, aims to concentrate on target groups such as EE volunteers and professionals, NGOs, schools, media, local authorities and governmental environmental institutions and plans notably to :

- collect and disseminate information on EE;
- develop, treat and disseminate new methodological tools and materials;
- promote cooperation, exchange of experience and communication between NGOs, GOs and sectors concerned with EE;
- provide training for educators in environmental education, management, law etc;
- promote research and develop strategies in EE; and
- support international cooperation.

For more information contact: *National Center for Environmental Education, Lublanska 18, 120 000 Praha 2, Czech Republic.*

ENVIRONMENTAL EDUCATION FOR PRESCHOOLERS

Environmental Education for Preschoolers is based on the concept that fostering a sense of wonder and appreciation for the world is important to the development of young children and the preservation of Planet Earth and consists of a curriculum guide, resource library and network.

The curriculum guide is entitled **Fostering a Sense of Wonder during the Early Childhood** and is meant for early childhood educators. It offers suggestions on how to foster in young children a sense of appreciation and caring for the natural world; ideas on using "pro–nature" books with children; suggestions for indoor discovery activities and outdoor excursions as well as an annotated bibliography of related resources.

The resource library contains over 100 different items relating to environmental education for preschoolers on nature–related topics such as gardening, animals in the classroom, earth art activities, nature in the city etc. In addition to printed materials, video– and audiotapes are also available.

The network is committed to the development, expansion and evaluation of quality programs in early childhood education. It sponsors information–sharing meetings and written communications.

For more information write to: *Dr. Ruth Wilson, Project Director, 418 Education Building, Bowling Green State University, Bowling Green, OH 43403, USA. Tel:419/372–7278 Fax:419/372–8265*

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The Nepal International Consumers Unions celebrated World Environment Day from 5–7 June 1993, at Kathmandu. The Programme included the announcement of the result of an essay contest on **"Our right to live in a clean environment"**, and a poster competition; distribution of environmental banners, badges, pamphlets, T–shirts and posters; a cycle rally; clean–up activities in different areas; afforestation activity and prize distribution. For further information write to: *NICU, P.O.Box 5841, Kathmandu, Nepal.*

Conferences/Meetings

The Society for Research on Environment and Health (Brussels/Antwerp) has announced two conferences on environment slated for October 1993: 1) **EPH '93 – First Global and European Conference on Environment and Public Health in Modern Society,** Antwerp, Belgium, 25–30 October 1993; and 2) **CITY '93 – Global and European Forum on Urban Problems, Urban Environment and Health in Cities**, Antwerp, Belgium, 25–30 October 1993. For further information contact: *Conference Secretariat, The Society for Research on Environment and Health, c/o Community Health Services, Uitbeidingsstraat 506, B–2600 Antwerpen, Belgium [Tel: (32–2) 230.92.32 FAX: (32–2) 230.16.44].*

The IDée–IEP network announces its yearly seminar/workshop **Rencontres européennes de l'éducation à l'environnement**, to be held in Lille, France, from 22–29 August 1993. Meant primarily for EE teachers it also welcomes interested academicians, technicians, association managers etc. The central theme of this year's seminar is **"Environmental education for all"** whereas the workshop will be devoted to exchanges in environmental education practices. For those interested contact: *Maison de la Nature et de l'Environnement, 23 rue Gosselet, 59000, Lille, France (Tel:20–52–12–02)*

Courses/Workshops

The **Centro Studi di Educazione Ambientale per l'Area Mediterranea**, organises courses in EE aimed at spreading the idea in the Mediterranean region of the importance of a proper and prudent management of the environment. The first course is to take place from 2–11 August 1993 at Melan (France) with others planned to be held in Italy and Bulgaria. For information write to: *G. Spinelli, CP 80, 25087 Salo, Italy (Tel/Fax: 365.521.416).*

Building Support for Environmental Education (BSEE) is a 3–year reasearch and development programme intended to ensure that environmental education practitioners have access to adequate and appropriate support. Initiated in 1991 by the Council of Environmental Education, details of the programme can be obtained from: *Council for Environmental Education, University of Reading, London Road, Reading RG1 5AQ, U.K.*

Publications

Our Planet, Vol.5, No.2 1993, is more particularly devoted to Poverty and Environment – theme chosen by UNEP for the World Environment Day, June 5, 1993 – with a number of interesting articles on the various effects of poverty on the environment. A World Environment Day colour poster, a plate of 4 thematic photos and one of the logo in English, French and Spanish are also being distributed with this issue. Available from: *Our Planet, UNEP, P.O. Box 30552, Nairobi, Kenya.*

The **Environmental Education and Training Unit** of UNEP has published the eighth issue of **ET Worldwide** entitled **A periodic compendium of opportunities in environmental training** containing information on more than 100 training courses – short or long term – in more than 25 countries. Available by writing to: *Chief, EETU, UNEP, P.O.Box 30552, Nairobi, Kenya. Tel:(2542) 230800 ext.4191 Fax:(2542) 226890.*

The I.U.C.N. Commission on Education Newsletter, **Nature Herald, No.4, May 1993**, announces its General Assembly in Buenos Aires, Argentina, from 18–26 January 1994. It also contains articles on the IUCN Mount Elgon Conservation and Development Project in Uganda, reports on conferences, viewpoints of experts on environmental education and policies as well as news of conferences, networks and courses. For copies and information write to: *IUCN–The World Conservation Union, Rue Mauverney 28, CH–1196 Gland, Switzerland.*

ENFO, a public information service on environmental matters, has prepared a series of information leaflets grouped under **"Briefing sheets"**, **"Fact sheets"** and **"Action sheets"**. **Briefing sheets** provide basic information on topics such as Water Pollution, Global Warming, Tropical Forests etc. **Fact sheets** provide basic facts on topics such as Environmental Legislation, The Greenhouse Effect etc. and **Action sheets** give information on what could be done under such headings as Recycling Metals, Household composting, or very simply What on Earth can I do? They also have resource packs for schools for the primary and post–primary levels. For more information write to: *ENFO, 17 St. Andrew Street, Dublin 2, Ireland. Tel.679 3144 Fax: 679 5204.*

Two new publications have been announced by the Environment Ministry of the Québec government: **Des watts entre les deux oreilles** produced by the Fonds d'éducation relative à l'environnement, and **Répertoire du matériel et des programmes éducatifs** prepared by the Comité interministeriel d'éducation relative à l'environnement. The first is a very attractive, well prepared manual on the theme of **Energy** meant for pre–school, primary and secondary school and the second is an analytical repertory of all the educational material, programmes and training programmes in the matter of environment available in Québec. For further information on **Des watts entre les deux oreilles**, contact *Centre de documentation de la Centrale de l'enseignement, 1170, boul. Lebourgneuf, bureau 300, Québec (Québec), G2K 2G1 Tel:(418) 627–8888 Fax:(418) 627–9999*. To obtain the **Répertoire du matériel et des programmes éducatifs** write to: *Service de l'éducation du ministère du Loisir, de la Chasse et de la Pêche, 150 boul.René–Levesque Est (6e étage), Québec (Québec), G1R 4Y1.*

The **Prodder Newsletter** vol.4, no.4 of January 1993, published by the Programme for Development Research, announces the publication of the **PRODDER's Development Directory 1992/93**. This edition takes into account all the socio–economic and political changes which have taken place in recent years in South Africa and aims at being not only a source of information but also a guide for all involved in the development process in South Africa. For more information contact: *PRODDER, Human Sciences Research Council, P.O.Box 32410, Braamfontein 2017, South Africa.*

Nouvelles du CIEA, No.4, 1992, has just appeared. The editorial as well as the lead article are devoted to the UNCED with interesting articles on the CIEA's EE programme, An environmental profile of Egypt, and news from different regions of the world. For information contact: *CIEA, 720 Bathurst Street, Suite 500, Toronto, Ontario, CANADA M5S 2R4.*

The **Council for Environmental Education** has just published an Earth Summit Update which is an attempt to throw light on some of the key post–UNCED developments of interest to the UK NGO community, **particularly in relation to education. Available from:** *CEE, University of Reading, London Road, Reading RG1 5AQ, U.K.*

GREEN, vol.V, No.1, March 1993, has just come out, containing articles on GREEN's Low–Cost Technology Project, Low Cost Incubators, Teacher information etc. For copies write to: *The GREEN Project, University of Michigan, School of Natural Resources and Environment, 430 E. University – Dana Building, Ann Arbor, MI 48109–1115, U.S.A.*

The Global Forum for Environmental Education, vol.3, no.2, March 1993, has just been published by Caretakers of the Environment International. For those interested in subscribing to it write to: *The Global Forum for EE, c/o CEVNO, Nassauplein 8, 1815 GM Alkmaar, The Netherlands.*

Educación Ambiental BEA is a bulletin on environmental education published in Spanish by the Asociación de Educación Ambiental de la Región de Murcia (ASEARM). Its Winter issue (N° 2) contains the Charter of Education for Sustainable societies, as well as EE news, reviews etc. For those interested contact: *ASEARM, c/José Javier 4–4°C, 30009 Murcia, Spain.*

Environmental News from the Netherlands 1993, No.1, is out. For those interested in this quarterly publication distributed free, write to: *The Secretariat of the Dept of Information and International Relations, Ministry of Housing, Physical Planning and the Environment, P.O. Box 20951, 2500 EZ The Hague, The Netherlands.*

International Academy of the Environment has just brought out a new publication **Capacity Building**. Available **free** to policy institutes, educational organisations, NGOs, pressure groups as well as businesses and trade and industry associations interested in the environment and development field. For details contact: *Tim Wolfe, Acting Manager Communications & Publications, International Academy of the Environment, Chemin de Conches 4, CH–1231 Conches, Geneva, Switzerland. Tel: 41 (22) 789–13–11 Fax: 41 (22) 789–25–38.*

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UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

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UN COOPERATION FOR THE DEVELOPMENT OF ENVIRONMENTAL EDUCATION

Agenda 21, one of the principal outcomes of UNCED (Rio, 1992), is an action plan for the 1990s going well into the 21st century which elaborates strategies and integrated programme measures to halt and reverse the effects of environmental degradation and to promote environmentally sound and sustainable development in all countries.

Now, the concept of environmentally sound and sustainable development clearly implies not only protection of the environment and the rational use of resources but also a whole series of policy options in the economic, social and cultural spheres - not least, a commitment to equity and the eradication of poverty. This calls for close policy cooperation and commitment at the highest levels, making the role of the UN family crucial in the implementation of the corresponding part of Agenda 21. Besides, effective action also requires an effective link between substantive activities and financial support and this in turn necessitates closer cooperation and information exchange between the UN system and other relevant GOs and NGOs as well as multilateral funding organisations.

At UNCED it was recognized that henceforth the strategy goal should be the establishment of a cooperative plan of the UN family for educating the world's citizens about our global environment - first by the establishment of a comprehensive programme for researching and monitoring the changes now under way in the environment in a manner that involves the people of all nations, especially students, and, second, through a massive effort to disseminate information about local, regional and strategic threats to the environment. The ultimate goal of this effort would be to foster new patterns of thinking about the relationship of civilisation to the global environment.

UNESCO has been active in this domain firstly, through its world-wide promotion of literacy and basic education together with its UN, NGO and governmental partners, and more particularly through the International Environmental Education Programme (IEEP) that it implements in cooperation with UNEP. And it is most encouraging that UNCED has assigned to IEEP the task of assisting in the development of an integral, coherent educational approach across the broad areas of environmental protection, sustainable development, science and technology knowledge (Agenda 21, Chapter 36.5).

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UNCED has further recommended that the UN system should undertake a comprehensive review of its educational activities and establish a programme within two years to integrate the decisions of the Rio conference into the existing UN educational framework (Agenda 21, Chapter 36.5 [g]).

A major priority is to reorient education towards sustainable development by improving each country's capacity to address environment and development in its educational programmes, particularly in basic learning. This is indispensable for enabling people to adapt to a swiftly changing world and to develop an ethical awareness consistent with the sustainable use of natural resources. Education should, in all disciplines, address the dynamics of the physical-biological and socio-economic environment and human development, including spiritual development, employing both formal and non-formal methods of communication.

Thus, cooperation and coordination at the national and international level concerning all aspects of education for the quality of life, are essential to the effectiveness of environmental education (EE). The international community will need to give and ensure maximum synergy between and within governmental and non-governmental bodies in working for programme development, promotion and implementation at the country level.

There is surely no greater contribution, or more essential ingredient in international cooperation linked to environmental problems and aiming at the "long-term strategies for environmentally sound and safe-guarded sustainable development" called for by the major UN reports ("Our Common Future", and "Environmental Perspective to the Year 2000 and Beyond", 1987) and UNCED (Agenda 21, 1992), than environmental education and training for today's and tomorrow's generations, to be undertaken immediately.

As EE is generally recognised to be an essential pillar of such an approach and while obviously no substitute for an effective industrial, economic and environmental policy, it can provide powerful reinforcement for such a policy within both formal and non-formal settings by expanding environmental awareness and promoting environmentally informed behaviour. Moreover, EE provides a clear awareness of the economic, political and ecological interdependence of the modern world, where the decisions and the behaviour of various countries can have international repercussions. And in this sense, **EE has the extremely important task of developing a spirit of responsibility and solidarity between countries and regions, irrespective of their levels of development, towards which international cooperation for the development of EE aims.**

Thus, the ringing slogan of EE has become: "Think globally, act locally!" But one must increasingly add: Global concerns demand global action, global education and global solutions, based on international understanding and cooperation. This implies a universal environmental ethics towards which, one feels, we are massively moving and that action will be taken to highlight the 1990s as the International Decade of Environment and Development Education.

UNESCO, within its field of competence, is ready to cooperate in the follow-up to the Rio summit through coordinated actions of all interested institutions. The legitimacy of UNESCO's contribution to this common enterprise is due not only to its political identity as an intergovernmental organisation in the UN family, but perhaps, and most importantly, to its intellectual calling, making UNESCO a focus for the things of the mind and the meeting place for the scientific, educational and cultural communities of the whole world.

In this context, UNESCO intends to launch an Interdisciplinary and Interagency Cooperation Project on Environment and Development which aims at developing "education, training and information activities designed to deal with the interwoven issues of population, environment and human sustainable development in an integrated manner, with emphasis on context-specific and problem-solving research and action" (27C/5, UNESCO Draft Programme and Budget for 1994-1995). Its main goal is to foster reorientation of education towards sustainable development and public awareness through integrated actions in both the formal and non-formal education sectors, taking into account all levels and modalities of education.

Thus, UNESCO is well placed to contribute to the global efforts not only in some of the discrete disciplines relevant to sustainable development but also in the intersectorial domain, in the necessary building of bridges across disciplines and sectors of activity. And UNESCO would hope to cooperate closely with all UN agencies and concerned organisations in the elaboration of an integrated approach to policy-making in environmental education focusing on sustainable development.

Fourth Interagency Consultation Meeting among UN Agencies and intergovernmental and non-governmental organisations concerned with EE and information

"The UNESCO/UNEP International Environmental Education Programme should, in cooperation with the appropriate bodies of the United Nations system, Governments, non-governmental organizations and others, establish a programme within two years to integrate the decisions of the Conference into the existing United Nations framework..."

(Agenda 21,Chap. 36.5(g),Rio, 1992)

It is in this perspective that UNESCO's Director-General decided to hold a Consultation meeting among UN Agencies and intergovernmental organisations concerned with environmental education and information, at UNESCO Headquarters, on 13-14 September 1993.

This is the fourth Interagency Consultation Meeting on EE - the first after UNCED - and has been organised by UNESCO in the framework of the UNESCO-UNEP International Environmental Education Programme (IEEP). The third Interagency Consultation Meeting on Cooperation and Coordination in EE, also held at UNESCO Headquarters, Paris, from 6-8 November 1990, had, as one of its objectives, preparations in view of UNCED. Thus the present

Consultation Meeting serves not only to take stock of the situation in the matter of Interagency cooperation and coordination since 1990, but also to prepare the ground for future action in view of the specific recommendations of Agenda 21 contained in Chapter 36: Promoting Education, Awareness and Training.

The following UN agencies and Organisations were invited to send representatives for the Consultation meeting : the Food and Agriculture Office (FAO), the International Labour Office (ILO), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the United Nations Population Fund (UNFPA), the United Nations Industrial and Development Organization (UNIDO), the United Nations Children's Fund (UNICEF), the United Nations Institute for Training and Research (UNITAR), the Department for Policy Coordination and Sustainable Development of the United Nations (DPCSD), the World Health Organisation (WHO), the World Meteorological Office (WMO), the International Council of Scientific Unions (ICSU), World Conservation Union (IUCN), the Commission of European Communities (CEC), the International Atomic Energy Agency (IAEA), the Organisation for Economic Cooperation and Development (OECD), the World Bank, the World Intellectual Property Organization (WIPO), and the World Tourism Organization (WTO).

The objective of the meeting being the establishment of a programme to integrate the UNCED decisions related to EE into the existing United Nations framework, it is envisaged to:

- present and discuss the environmental education and information programmes of the participating Agencies and organisations in the post-UNCED context;
- define methods of work for undertaking a UN system-wide comprehensive review of environmental education; and
- propose actions required for establishing a programme to integrate the EE related UNCED decisions into the existing UN framework.

A comprehensive report of the meeting, including highlights of the contributions of participating agencies and organisations, will appear in the next issue of Connect.

FIELD ACTIVITIES

IEEP projects in Central and South America

A variety of EE activities have been initiated by the IEEP in Central and South America consisting of a subregional project for 6 Central American states, 3 pilot projects, 2 national training workshops and the preparation of a Handbook for Primary Schools.

The Subregional EE Project for 6 Central American states - Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama - initiated in 1992 in cooperation with governmental organisations of the concerned states, aims at incorporating the EE dimension in both formal and non-formal education in these countries.

The first phase of this long-term project was completed in early 1993 with the preparation of an EE handbook which will serve as a methodological source for developing EE for sustainable development activities. Based on the major environmental and development problems of the subregion, it provides ideas, guidelines, methods and practical examples as well as illustrations on what to do and how to do it. The second phase of the project will be a subregional workshop for the examination and eventual revision of the handbook, the third phase being the development of a pilot project in each country to test the handbook in pilot schools.

National Training Workshops

Nicaragua: Two national training workshops in EE have been slated for October 1993 in collaboration with the Instituto Nicaraguense de Recursos Naturales y del Ambiente. The first is designed for the personnel of the Servicio Nacional de Capacitación, Educación y Divulgación Ambiental (National Training Centre for Education and Environmental Awareness) and the second is for the leaders of the Brigadas Ecológicas Municipáles (Municipal Ecological Brigades).

Pilot Projects:

Brazil: A pilot project on **Garbage and Recycling** in Rio de Janeiro has just been initiated in cooperation with the Centro Cultural Rio-Cine. This project is a continuation of the **Nature of the Landscape EE Programme** covering both formal and nonformal educative systems. The activities will focus on environment, population and development issues.

Costa Rica: EE through Radio Programmes is a pilot project developed in cooperation with the Ministry of Education through its Centro Nacional de Didáctica. Programmes addressed to primary and secondary school teachers, students as well as the general public, are transmitted by 12 radio stations. The project aims at developing public awareness, attitudes and values with regard to environmental and development problems, and stimulating public participation in problem-solving activities.

Peru: In cooperation with the National University of Trujillo, a pilot project is being developed to combat pollution in Lake Sauce. The activities include: incorporation of the subject into the local curriculum in an integrated manner; training of educators and community leaders; preparation of appropriate materials; and development of a community campaign to solve the most pressing environmental and development problems linked with the pollution of the lake.

EE Handbook

Costa Rica: In cooperation with the Centro de Estudio Ambiental, a study has been initiated with the intention of preparing a handbook on the cultural and technological activities of the indigenous populations regarding the conservation of the environment. On completion, the handbook will be distributed in primary schools throughout the country.

Symposium on Environmental Planning and Development in Gulf Cooperation Council (GCC) Countries

This symposium was held at the Faculty of Science, Kuwait University, from 13-15 June 1993, and was attended by 250 participants from all the GCC member states.

The work of the symposium was divided into five sessions, each devoted to a specific topic: Land Use Planning; Environmental Planning and Development; Planning for Resource Utilisation and Waste Management; Legislative and Administrative Environmental Planning; the final session being devoted to discussion and recommendations.

The following are some of the major recommendations of the symposium:

- Coordination at the regional level in the planning of land use in view of the environmental similarities in GCC states;
- Political commitment for the realisation of a constant development with due regard for future generations;
- Environmental planning aiming at:
  - achievement of a constant improvement in the quality of life for everyone;
  - adoption of development patterns corresponding to the GCC states' environmental characteristics;
- Rationalisation of the exploitation and use of water and other natural resources;
- Encouragement of clean and environmentally suitable technologies;
- Promulgation of laws for the protection of the environment which combine and coordinate environmental legislations in each of the GCC states;
- Establishment of an official body comprising environment specialists from each of the GCC states to follow up, implement and control the environmental policy;
- Establishment of a specialised regional centre for GCC states in order to lay down environmental policies and strategies as well as environmental planning with a view to achieve sustainable development;
- Enhancement of the different forms of environmental education as the main support for environmental management.

ASEAN Conference on Environmental Education for Sustainable Development

Held in Jakarta from 2-5 June 1993, this conference was organised by the University of Indonesia in cooperation with the Association of Environmental Study Centres, Indonesia, and the International Council for Environmental Education. It was supported by the Indonesian Ministry of Education and Culture, the State Ministry of Environment; the State Ministry of Population, the Office of the Governor of Jakarta and UNESCO, with assistance from UNEP, UNDP, USAID, the British Council, CIDA and various other local enterprises, private sectors and foundations.

It was attended by 205 participants from Australia, Bangladesh, Brunei-Darussalam, Canada, Germany, India, Indonesia, Japan, Malaysia, Netherlands, New Zealand, Pakistan, Philippines, Poland, Singapore, Switzerland, Thailand, U.K., U.S.A. and Vietnam as well as representatives from three IGOs, the ASEAN Secretariat, UNEP and UNESCO.

The objectives of the conference were to examine the current trends and problems common to the region, seek solutions based on existing experience and propose programmes drawing on local and regional expertise. Papers presented during the conference, as well as discussions in workshops, focused on five areas: out-of-school education, training programmes, greening the curriculum, degree programmes in environmental science and networking in EE.

The most significant output of the conference was the launching of the ASEAN Region Network on Environmental Education (ARNEE) - located at the Centre for Research of Human Resources and the Environment, University of Indonesia - whose members are the Centres of EE in Brunei-Darussalam, Indonesia, Malaysia, Singapore, Philippines and Thailand.

Environmental Education in the Commonwealth

The International Conference on EE in the Commonwealth was held at the University of Bradford, U.K., from 18-23 July 1993. Supported by various national and international organisations including UNESCO, UNEP, CIDA, SIDA, GTZ, The Commonwealth Secretariat, the U.K. Department for Education, etc. it brought together over 80 delegates from around 40 Commonwealth countries representing UN organisations and agencies, GOs, NGOs, academic institutions and bilateral agencies.

The conference was aimed at catalysing and promoting the systematic development of environmental education programmes in Commonwealth countries, its major objectives being:

- to enable exchange of experiences amongst governmental and non-governmental EE specialists and practitioners in Commonwealth countries;
- to stimulate contacts amongst those working with EE for the establishment of working links and networks;
- to discuss long-term strategies for the development of EE in the Commonwealth.

In the Declaration approved by the plenary of the conference, the following recommendations were addressed to the Commonwealth Heads of Government:

- It is necessary to formally acknowledge the importance of EE in the process of finding the way for sustainable development for all;
- It is necessary to develop national policies for EE, thus meeting the target set in Chapter 36 of Agenda 21 (Education, Awareness and Training);
- It is necessary to ensure that EE is included at all levels of the formal and non-formal education process and to support existing mechanisms to implement EE programmes addressing the training and resource needs seen in Commonwealth countries;
- It is necessary to disseminate EE in the framework of existing Commonwealth structures and to promote cooperation among them, nationally and internationally, maximising the use of resources and funds.

It was also strongly recommended that the Declaration be brought to the attention of the next Commonwealth Ministers of Education meeting in 1994 to ensure that this important topic is included in the agenda of the next Commonwealth Heads of Government meeting in 1995.

For Proceedings of the conference contact: *University of Bradford, Research Unit on EE and Development, Bradford BD7 1DP. Tel:(274) 73-34-66 Fax:(274) 38-42-31.*

DOING IT & TELLING IT

School campaign for classifying and recycling household waste

Place: I.B. Xelmìrez I High School, Santiago de Compostela, Spain.

Target Groups: 41 pupils (14-15 yrs) from the Biology and EE class as well as their families, of which 10 from rural areas and 31 from the urban.

Introduction: The research/action work forms part of the "A Curuxa" EE workshop activities and is connected with a second course lesson on **Management of waste**. In order to recycle glass and paper in collaboration with people from the quarter and the local recycling programme, a campaign was carried out to divide household waste into glass, paper and the rest.

Objectives:
- To foster interest and participation of pupils and parents in environmentally sound activities;
- To analyse the waste crisis in an interdiciplinary manner (Biology, Mathematics, Ethics);
- To persuade local authorities to take up recycling activities instead of incineration.

Resources: Three teachers, 41 pupils and their families; a room to store old paper, a room with a small "green library" for the work team, 25 dynamometers for weighing, 6 plastic containers to collect old paper, 2 "mini-factories" to make hand-made recycled paper, a composting organic waste box and several computers for statistics.

Methodology:
- A test for preconception knowledge;
- Presentation of the problem: videos, reading, discussions;
- Visits to the local landfilling, water treatment plant and recycling paper factory;
- Daily classification of each household waste and data collection. Weekly and monthly estimation.
- Calculation of global quantitities, savings, costs etc.
- Preparation of a final report by each 3-5 member group.

Evaluation:
- Self-evaluation by each pupil;
- Group evaluation, revision of final reports;
- Tests concerning the accomplishment of the objectives;
- Evaluation of awareness and participation-level of each pupil.

Results: In approximately 5 weeks we demonstrated to our local community that we could recycle 21% (14% paper and 7% glass) of household waste without great difficulty, with just clear information and collecting facilities for the majority of the citizens. Thus we could allow our city to make a yearly saving of 40,233 trees, 15,383,170 Kw/H of energy and prevent pollution of 354,996 m3 of water.

Sent by: *Manuel Antonio Fernandez Dominguez, Workshop for EE "A Curuxa", I.B. Xelimirez I, Campus Universitario s/n, 15705 Santiago (A Coruña), Spain. Tel: 981-584321 Fax: 981-584533*

Development communication in rural population through wall-newspaper

Place: Delhi and rural areas in seven Hindi-speaking states in India.

Target groups: Women, school children, neoliterates, village councils, rural banks and NGOs.

Introduction: *Aas Paas - Gramin vikas ki or* (Our environs - towards rural development) is a monthly wall-newspaper based on sustainable development published by the Energy Environment Group, New Delhi, India, designed to bring environmental information to a wide audience and encourage literacy. Together with

an editorial and a feed-back section, it features field based ecological, environmental, health, agricultural, etc., topics relevant to the rural life-style with a focus on direct application.

Objectives:
- providing environment and development information to villagers who have no access to such information, in an easily understandable language;
- building up an alternative communication directly related to the target audience.

Resources: A number of dedicated writers and a panel of contributors from the Energy Environment Group form the human resources of this project. An IBM compatible PC-AT with SCRIPT software in Hindi and English are used for laser typesetting. Illustrations are done in-house or with outside help, as is offset printing, and distribution is done by direct mailing. Seed money for research is provided by the Panos Institute, London, U.K.

Methodology: Each issue is planned well in advance and research done to obtain information on selected topics. Field visits are made to see successful application of appropriate technology or the agency from where information is available. Efforts are made to provide contact addresses of the institution where further details of the technology are available. The feedback section is also used to introduce new topics. Each issue is single colour printed - six colours being used in all. A regular mailing list of rural banks, village councils, environmental NGOs, adult education centres and concerned individuals is maintained in a data-base.

Evaluation:
- In October 1991 an evaluation of the newspaper was carried out with such encouraging results that the project was considerably widened.
- The feedback section of the newspaper provides a regular source of evaluation.

Relevant results: A meeting of grassroots groups in Himachal Pradesh gave several insights on the usefulness of *"Aas Paas"*, specially for villages where no roads existed for 20 miles around. Readers have written back reporting how adoption of techniques reported in *"Aas Paas"* had helped to improve conditions in their villages. The National Literacy Mission's recommendation of *"Aas Paas"* as resource material to Adult Education Centre resulted in bulk orders for the monthly. Circulation has steadily increased from 1,000 to 4,000 reaching around 200,000 people with requests for production in several other Indian languages.

Sent by: *Ms C.P. Jayalakshmi, Programme Officer, Energy Environment Group, 7/14 Old Double Storey, Lajpat Nagar IV, New Delhi 110 024, India*

Readers are invited to send us their ***teaching/learning experiences*** *(concrete activities) in EE. They should be set out under the following headings:* ***Place, Target Groups, Introduction, Objectives, Resources, Methodology, Evaluation, Results*** *and should be as brief as possible. Selected experiences will be published together with the name and address of the author. Please address your contributions to:* ***Doing it and Telling it*** *(address on last page)*

EE NEWS & PUBLICATIONS

Publications

Outreach no.90 is out. Based on GROWING UP a documentary film produced by the Television Trust for the Environment and Central TV (UK) in association with UNEP, UNICEF and EC, it deals with the theme of growing up in various countries like India, Kenya, U.K., Venezuela, South Africa, China etc. Highly informative, it has articles on subjects like **Rural development, Pollution and Health Care, Child labour and the Rights of the Child, How Apartheid has affected the Environment** etc. For copies/information write to: *Richard Lumbe, OUTREACH co-ordinator, Information and Public Affairs, UNEP, P.O.Box 30552, Nairobi, Kenya; or James Connor, OUTREACH Director, Teaching and Learning Center, 200 East Building, 239 Greene Street, New York University, New York, NY 100003, USA.*

The Summer 1993 issue of **Environment Bulletin** vol.5, No.3, has just been published by the World Bank Environment Community. It features, among others, articles such as "Environmental Action Plan for Côte d'Ivoire", "Environmental Action Programme for Central and Eastern Europe" as also a report on the Fourth Regional Workshop for Environment and Sustainable Development, Côte d'Ivoire, 15-20 May 1993. Copies can be obtained from: *Editor, Environment Dept. World Bank, Room S-5055, 1818 H Street, N.W., Washington D.C.20433, USA.*

The Royal Society for the Protection of Birds (RSPB) has just published **Environmental Education: The Vital Link**, which "sets out an *ideal policy* for schools for use in the formulation of their own policies for EE and suggests how these may be put into practice". The RSPB has also prepared a Teacher's Pack which explains some of the educational work of the society as well as school curriculum guides for various age groups for the integration of bird studies in

various subjects like mathematics, primary science, food chains and predators, etc. Well illustrated and easy-to-read, full details on these very interesting documents, as well as other educational resources produced by the RSPB, can be obtained by writing to: *RSPB Education Department, The Lodge, Sandy, Bedfordshire SG19 2DL, U.K.*

The National Federation of UNESCO Associations in Japan (NFUAJ) has announced the publication of a **Guidebook on teaching environmental education for elementary school teachers** in Japanese containing extracts of IEEP documents. The guidebook is distributed along with an EE videofilm entitled **"The Promise for the Future"**, produced by an environmental group, *WOMEN 1000*. For those interested in obtaining copies contact: *Takafumi Miyake, Unit for Public Information, NFUAJ, P.O.Box 4004, Shinjuku Centre Bldg.(38F), 1-25-1 Nishi-Shinjuku, Shinjuku-ku, Tokyo 163, Japan. Fax: 81-3-3340-3928*

The National EE Committee of **The Sierra Club** has produced **The TEAM Notebook** (Teachers' Environmental Action Manual) containing 182 pages of lesson plans, activities, resources and EE ideas for teachers of kindergarten through 12th grade. Prepared in response to requests from hundreds of teachers and youth leaders, it has worksheets, diagrammes, poems, classroom games etc. as well as extensive resource listings which include bibliographies of books on environment, lists of environmental organisations, environmental job opportunities and more. Copies, at $15 plus $3 for shipping, can be ordered from *Sierra Club TEAM Notebook, Dept. SA, P.O. Box 7959, San Francisco, CA 94120, USA. Tel: 415-923-5660.*

CEIDA - Centro de Educación e Investigación Didactico Ambiental, has just brought out the Spring 1993 issue, no.10, of its **Boletín de Educación**. It is published in the form of pre-punched loose leaflets, coloured according to theme, some in Spanish others in Basque. A number of topics are treated in this issue including Water, Energy, Waste paper, Children's museum as well as environmental games for children, book reviews, environmental information etc. For those interested write to: *CEIDA de Txurdinaga, Ondároa 2, 48004 Bilbao, Spain. Tel:(94) 411-49-99.*

Forthcoming Meetings, workshops, conferences

The Wildlife Society, Bethesda, MD, USA, will hold **The International Wildlife Management Congress (IWMC)** aimed at integrating people and wildlife for a sustainable future, at San Jose, Costa Rica, from 19-25 September 1993. The theme of **Sustainable use** will be addressed in two major areas of emphasis throughout the Congress: 1) The development of **wildlife conservation strategies** that attend to the **needs of the people**, and 2) The development of conservation strategies that focus on **biological diversity**. For more information contact:*The Wildlife Society, IWMC Secretariat, 5410 Grosvenor Lane, Bethesda, MD 20814-2197, USA. Tel:(301) 897-9770 Fax:(301) 530-2471.*

National Environmental Education Seminar, Chapter 36, The implications of Agenda 21 to formal and non-formal EE in the U.K. To be held at the University of Bradford, West Yorkshire, on 7 October 1993. For information and booking forms: *University of Bradford, European Research Unit on EE and Development, Bradford BD7 1DP. Tel:(0274) 38-53-91 Fax:(0274) 38-42-31.*

Perspectives for Ecological Communication, 14-17 October 1993, Dresden, Germany, will feature conferences, exhibitions, films, a media fair on ecological communication as well as symposia, workshops, discussions on such topics as **International Ecological Communication, Communicating local environmental issues , Environmental Consciousness and Mass media,** etc. For those interested write to: *Deutsches Hygiene Museum, Lingnerplatz 1, D-0-8010 Dresden, Germany.*

Advanced Studies in Human Ecology in Semi-Arid zones is a specialization course for Latin America to be held from 20/8 to 17/12/93 in Recife, Brazil. Meant for high level professionals dealing with environmental problems, this is a full time course of 420 hours treating topics like **Ecology and Human ecology, Soil use and landscape making, Health and environment, Development and Ecodevelopment, Environmental education and Environmental law**, etc. For further information contact: *Instituto de Ecologia Humana, Rua Dom Manuel de Medeiros,s/n, Edificio Newton Banks, 2° andar- Dos Irmaos (UFRPE), Recife - PE - 52171-030, Brazil.*

The Centre for Applied Studies in International Negotiations will hold their fifteenth programme on international economic relations and management of interdependence entitled **Growth, Development and the Environment: from Opportunities to Action** and will be held in Geneva from 28 October-6 November 1993. Meant for senior officers of the public sector, big societies and unions, its aim is to enable them to identify and develop appropriate policies and strategies to deal with the double challenge of development and the protection of the environment. For more information contact: *The Director, Centre for Applied Studies in International Negotiations, 11a, avenue de la Paix, 1202 Geneva, Switzerland. Tel: 022/734-89-50 Fax:022/733-64-44.*

1st International Symposium on **Ecosystem Health and Medicine: New Goals for Environmental Management**, 19-22 June **1994**, Ottawa, Ontario, Canada. This symposium will provide an opportunity for professionals working in ecosystem science and management, medical and health sciences, environmental ethics and law, and ecological economics to participate in the development of integrated approaches to the evaluation, monitoring and rehabilitation of environmental health at the ecosystem and landscape levels. Major themes include **Approaches to assessing ecosystem health; The human health/ecosystem health interface; Environmental Management & policy**. For information and guidelines for presentations contact: *Mr. Remo Petrongolo, Symposium Manager, Office of Continuing Education, 159 Jonston Hall, University of Guelph, Guelph, Ontario, CANADA N1G 2W1. Tel:(519) 824.4120 ext.3064.FAX:(519) 767.0758.*

The African Social & Environmental Studies Programme (ASESP) in collaboration with the U.S. National Council for

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Social Studies (NCSS) have announced the **Third International Social Studies Conference** to be held in Nairobi, Kenya, from 27-29 June 1994. The central goal of the conference is to bring together a variety of educational practioners - including teacher trainers, curriculum developers, specialists in EE as well as socio-economic change and development, scholars and leaders from around the world to critically reflect on the challenges and opportunities presented by the emerging themes of the past decade, within the framework of rapid change. The conference will also endeavour to generate proposals and guidelines for responding to these challenges at the local, national, regional and international levels during the 1990s and beyond. For further information contact: *ASESP, P.O.Box 44777, Nairobi, Kenya, Tel:747960/740817 Fax: (254-2) 747960 or NCSS, 3501 Newark Str., NW., Washington D.C. 20016-3167 USA.*

Children's Edition of Agenda 21

Rescue Mission: Planet Earth

For Part Three of the project [v. Connect Vol.XVII no.4 (Dec. 1992) & Vol.XVIII no.1 (Mar.1993)], the Editorial Meeting, competition for places was intense, with over a hundred applicants. Many teachers too wanted to come -but the plan for the project was definite on this point: this is strictly a children's project! 27 young people aged 10-21 from 21 countries were selected to assemble and edit 96 pages from thousands of texts, interviews and illustrations sent in from around the world. Many of the best came from UNESCO clubs and associated schools.

A professional designer hired as a consultant had his outline for the book jettisoned on the very first day just as the title suggested by the marketing department of Kingfisher Books, the publisher. The children felt total ownership of the book! And they did in two weeks what professional writers and designers usually take up to a year to complete.

For Peace Child International, this was stress as usual. A youth organization whose stated mission is to "empower children", its normal programmes have 40 children from different countries putting together a new musical in four weeks. Putting together a book in two weeks was thus something of a relaxation...

This is the end of a process which started almost a year ago when UN agency representatives agreed that a children's edition of Agenda 21 was necessary - and who better to write it than children themselves. One stipulation was that there should be equal participation from the developed and developing world, a requirement richly achieved in a wonderfully broad diversity of illustrations and opinions. In all other matters, the editorial decisions of the children would be final.

Last February, parts of the text were sent out to children around the world for summary and analysis. Peace Child staff prepared a summary from the results of this, along with a "Question List" and other supporting material. The children then conducted interviews with key UNCED figures - Maurice Strong, Nitin Desai, Tommy Koh; agency chiefs like Elizabeth Dowdswell of UNEP; NGO luminaries like Warren Lindner, Koy Thompson and Tariq Banuri. Statements were received from figures as varied as Paul McCartney and Mikhail Gorbachev.

In July, 5 talented interns aged 17-22 met at the new Peace Child Headquarters in England to prepare a first draft. This was completed hours before the editors arrived on 5 August. The group moved to an environmental teaching centre deep in the Chiltern Hills where they worked in a manner that astonished all who witnessed it. The final copy was delivered on 20 August.

And what is it like? Different! Beautiful to look at with fascinating drawings and paintings from all over the world. It looks carefully at the background to the Rio Earth Summit, as well as at the problems Agenda 21 discusses and the solutions it proposes. Chiefly, it tells young people what they can do to be part of the Rescue Mission for this project is about much more than just making a book. It is about launching a worldwide Rescue Mission, designed to mobilise young people throughout the world, in every school and club, to join in implementing the Agenda's goals in partnership with other sectors of society.

Preview copies will be available from early November and the Rescue Mission itself will be launched around the world on Earth Day 1994.

For more information contact: *David Woollcombe, Project Coordinator, Peace Child International, The White House, Buntingford, Herts, SH9 9AH, U.K.*

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UNESCO-UNEP ENVIRONMENTAL EDUCATION NEWSLETTER

Vol. XVIII, No. 4, December 1993

A UN SYSTEM-WIDE JOINT ACTION PLAN FOR EE AND INFORMATION

"Within two years the United Nations system should undertake a comprehensive review of its educational programmes, encompassing training and public awareness, to reassess priorities and reallocate resources. The UNESCO/UNEP International Environmental Education Programme should, in cooperation with the appropriate bodies of the United Nations system, Governments, non-governmental organizations and others, establish a programme within two years to integrate the decisions of the Conference into the existing United Nations framework adapted to the needs of educators at different levels and circumstances."

(Agenda 21, Chap. 36.5(g), UNCED, Rio, 1992)

In view of this express recommendation by UNCED to the UNESCO-UNEP International Environmental Education Programme (IEEP), the Director-General of UNESCO convened a Consultation Meeting among UN Agencies and some Intergovernmental and Non-governmental Organizations concerned with Environmental Education and Information at UNESCO Headquarters, Paris, France, on 13-14 September 1993. This was the fourth Interagency Consultation Meeting on Environmental Education (EE) organised in the framework of the IEEP and the first after UNCED. The previous Interagency Consultation Meeting on Cooperation and Coordination in EE (v. *Connect*, Vol.XV, no.4, December 1990) having had, as one of its objectives, pre-UNCED preparations, the present Consultation Meeting was also an occasion to take stock of the situation in the matter of Interagency cooperation and coordination in EE since UNCED.

The **aim** of the meeting was **to foster exchange of information within the UN system and intergovernmental and non-governmental organizations concerned with EE and discuss ways and means of making an in-depth review of policies and methods regarding the promotion of environmental education, public awareness and training - the ultimate objective being the establishment of a coordinated UN interagency programme integrating the UNCED decisions related to EE and information.**

Thus, the **agenda** of the meeting included notably: a) presentation and discussion of the environmental education and information programmes of the participating Agencies and organizations in the post-UNCED context; b) definition of methods of work for undertaking a UN system-wide comprehensive review of environmental education; and c) proposal of actions required for establishing a programme to integrate the EE-related UNCED decisions into the existing UN framework.

Representatives from the following UN Agencies and Inter-governmental Organizations participated in the meeting: **The Food and Agriculture Organization (FAO), the International Labour Office (ILO), the United Nations Development Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations Industrial and Development Organization (UNIDO), the United Nations Institute for Training and Research (UNITAR), the World Health Organisation (WHO), the World Meteorological Office (WMO), the International Council of Scientific Unions (ICSU), the International Union of Biological Sciences (IUBS), the World Conservation Union (IUCN), the Commission of European Communities (CEC), and the Organisation for Economic Cooperation and Development (OECD). The United Nations Environment Programme (UNEP) sent written inputs.**

The meeting was opened on 13 September 1993 by the Deputy Director-General a.i. of UNESCO, who, quoting the Director-General, stressed the fact that UNESCO was *committed* to the follow-up of the UNCED Recommendations as contained in Agenda 21. He insisted upon the need to develop sound concepts and sound information leading to a sound strategy on environmental education, training and awareness. A major priority, he added, was **the development of indigenous capacities, particularly the training component, in developing countries - specially those belonging to the category of the Least Developed Countries (LDC) - to allow them to participate actively in the decision-making process concerning environment and development issues.**

In the keynote address, UNESCO's Assistant Director-General for Education who chaired the meeting, emphasized the fact that **the global nature of environmental problems made it essential for the UN system to focus on building a "grand alliance" in favour of education and sustainable development** in order to rise to the challenge put to them by UNCED. Given the shortness of the period - two years - at their disposal, it was vital to start working immediately. In order that UNESCO, which had been designated as the Task Manager by the UN Department of Policy Coordination on Sustainable Development (UN-DPCSD) in the matter of "**Promoting Education, Public Awareness and Training**" (Agenda 21, Chapter 36), could work out a coherent, joint plan of action for the future, it was essential for each Organization to provide full information on its current and future key activities in the domain of environmental education and information. He therefore appealed to each Organization to identify a **focal point** with whom UNESCO and other Organizations could liaise in order to achieve the objective set out by UNCED since cooperation and coordination among all the Agencies/Organizations were crucial to the success of the enterprise.

The presentations of the various participants on the key activities of their Organizations in the matter of EE and Information led to a rich and fruitful discussion in which a certain number of interesting points were raised like: possibilities of the division of work between the smaller and the bigger agencies; need for better information in international cooperation at the country level; closer contacts with the business community - as existed prior to the crisis of the 1970s; combining specialities of each agency in coordinated programme planning; and use of social marketing - a process already in use in certain parts of the world.

The two principal items to figure on the Agenda were: *Methods of work for undertaking a UN system-wide comprehensive review of environmental education* and *Action required for establishing a programme to integrate UNCED decisions related to environmental education into the existing United Nations framework*, both of which had been directly addressed to the IEEP by UNCED. However, it was pointed out at the outset **that, in fact, the actual amount** of work would be much greater **since in the years to come,** a coordinated implementation **of the activities would have to be ensured** as also the fact that environmental education and training being implicit in many other chapters of Agenda 21, guidance would have to be provided for others through the conceptual approaches developed for Chapter 36. Finally, it would also involve helping the secretariat of the Commission on Sustainable Development to prepare a report for the Commission on Environmental Education and Training to be submitted to the Commission on Sustainable Development at its 1996 session. Thus the 3 major tasks set out for the Organizations/Agencies were: **1) Preparation of a comprehensive review of the existing EE, training and information activities and the preparation of a consolidated programme for the future, in the matter of EE, training and information for the UN system; 2) Cooperation within the UN system regarding all the activities listed in Chapter 36 as well as EE- related activities in other chapters of Agenda 21; and 3) Reporting to the Commission on Sustainable Development in 1996.**

A number of concrete proposals were made during the interesting discussion that followed and a certain number of clarifications - regarding the precise means and manner of use regarding exchange of information; the parameters to be used in the evaluation of activities; cooperation and coordination at the country level etc., had to be made. At the end of the discussion, the Consultation came to the following major decisions:

- Each Organization/Agency should develop its respective environmental education data base for possible interconnection and designate active focal points for expediting information exchange on environmental education activities as a follow-up to UNCED.
- UNESCO should prepare, on the basis of self-evaluation inputs from the UN bodies covering a period of at least two years, a UN system-wide comprehensive review of environmental education and submit it to the Commission on Sustainable Development.
- Each UN body should send the environmental education component of its draft programme and budget for 1994-1995 and its next draft medium-term plan to UNESCO for the preparation of a joint programme to integrate UNCED decisions related to environmental education into the existing United Nations framework.
- Environmental education collaboration at country level through the development of coherent programmes and involving concerned UN bodies and national organizations should be fostered.
- Development of national strategies and action plans in environmental education as an integral part of national plans for education, health, agriculture, industry and socio-cultural development should be actively encouraged.
- Establishment of national coordinating boards in the field of environmental education should be promoted in order to facilitate decision-making within the countries and with various donors, especially the UN bodies.
- Greater cooperation with non-governmental organizations, the private sector and the media should be sought in order to ensure an effective impact on all sections of the population.
- Strong efforts should be made to identify funding sources outside the UN system for faster and wider implementation of activities mentioned in Chapter 36 of Agenda 21.

Finally, regarding the venue of the next Interagency Consultation Meeting, the principle of rotation was accepted, the place and the dates depending upon progress of work.

NATIONAL SEMINAR ON: THE CONTRIBUTION OF YOUTH IN THE PRESERVATION OF THE WHOLE ENVIRONMENT

MUSCAT, SULTANATE OF OMAN, 12-14 SEPTEMBER 1993

This 3-day seminar was organized by the Ministry of Environment and the regional municipalities in collaboration with all the ministries, and other international specialized agencies, and was held at Muscat, Sultanate of Oman, from 12-14 September 1993.

It was attended by 171 participants from 28 different institutions and organizations such as the Ministries of Education, Water and Fisheries, Interior, and Communication; the Qabous University, various women's associations and youth clubs in addition to the Ministry of Environment and regional municipalities.

The main objectives of this seminar were:

- to emphasize the importance of the specific characteristics of the Omani environment and the mechanism of implementing national policies to preserve the environment;
- to open a cognitive dialogue based on scientific methodologies, between the different sectors of the society and in the first place the youth, in order to implement environmental policies for strengthening initiatives in environmental issues;
- to define the roles of different governmental sectors in the preservation of the environment by discussing available alternatives and possible means for strengthening these efforts;
- to take into consideration the application of the outputs of the Earth Summit (UNCED) held in Brazil, June 1992; and
- to strengthen the interaction between different youth sectors in the State of Oman by facilitating communication channels and discovering potentialities for its better use.

The work of the seminar consisted of six working sessions in which 18 working documents were presented and discussed. An exhibition of environmental photographs was also organized. At the end of the six sessions the main recommendations made by the seminar were as follows:

- to consider environmental awareness for all sectors of society as a natural right for Omani people and to adopt EE structures, formal and non-formal, in order to establish communal EE and a sense of responsibility;
- to promote environmental awareness of women through different communication media;
- to urge the youth to perform its role completely by using and preserving natural resources so as to maintain them for the present and the future;
- to bring about a complete coordination between the Ministry of Environment and the regional municipalities and other governmental bodies in the fields of environmental awareness and guidance, and coordinate communication campaigns that are directed to school students, national societies and clubs by making annual joint plans which guarantee a better use of available resources; and
- to generalize the experiment of school-level EE textbooks and extend it to intermediate colleges and institutions.

ASIA-PACIFIC REGIONAL EXPERTS' MEETING: OVERCOMING THE BARRIERS TO EE THROUGH TEACHER EDUCATION

The Asia-Pacific Regional Experts Meeting on **Overcoming the Barriers to Environmental Education** through Teacher Education, held at the Griffith University, Brisbane, Australia, from 4-9 July 1993, was organized by the Australian Association for Environental Education Inc. and Griffith University, in cooperation with the Australian National Commission for UNESCO and was supported, among others, by UNESCO.

The seminar was attended by 11 National Commissions of UNESCO: Australia, Bangladesh, China, Fiji, Indonesia, New Zealand, Papua New Guinea, Philippines, Sri Lanka and Vietnam. Observers from Hong Kong, India, Malaysia, Nepal, Pakistan, Taiwan, Tonga, U.K. and U.S.A. were also present.

The main **objectives** of the seminar were: to develop practical strategies for overcoming barriers to the successful implementation of environmental education through teacher education; to strengthen the networks between environmental educators in the Asia-Pacific region; and, to develop practical guidelines and recommendations to share with member states and environmental educators in the region and the wider international community.

The seminar consisted of presentations of Country Reports, papers, as well as workshops on themes such as: *Education for Sustainable Living*; *The role of Teacher Education in overcoming barriers to Education for Sustainable Living*; and *Proposals to adapt "Teaching for a Sustainable World"*.

The major **recommendations** were as follows:

- Teacher education should be made a central focus of national and international strategies and programmes to promote Education for Sustainable Living and recommendations of the seminar addressed to teacher education institutions should be reviewed for incorporation into them;
- Teacher education institutes should make a commitment to develop, implement and adequately resource Education for Sustainable Living programmes within their courses;
- A two-stage development strategy should be formulated to develop a regional/sub-regional series of training manuals on teacher education for Education for Sustainable Living with the first stage being the development of regional/subregional manuals and the second their national and local adaptations.

For further information contact: *Dr John Fien, Faculty of Environmental Sciences, Griffith University, Nathan, Brisbane, Australia 4111. (Fax: 61-7-875-7459)*

AN EE PROJECT IN QUEBEC, CANADA

The MADIE (Teaching Material on Environment) project, launched in 1985 but operational only since 1992, is based in the Saguenay-Lac-Saint-Jean region of Québec, Canada, and is dedicated to the production of teaching material on environment for the use of the 179 primary and secondary schools of the region. The originality of this project is that its entire production has a regional character, one of its major objectives being to lead the 56,000 concerned students to a better undertanding of the ecological, social and economic problems of their region in the light of sustainable development. It is also committed to the development of the region which, though naturally rich in water, forests and fertile land, has suffered a certain amount of degradation.

Within two years the MADIE has produced notably:

- A geographical map of the region in two sizes: big (1m x 2m), and small for individual students;
- Three videos on Water;
- 26 big- and small-sized posters on animals and their natural habitats;
- 5 teacher's manuals adaptated to 5 precise educational programmes, including EE-based practical and theoretical informations.

For the production of its teaching materials, a vast campaign of information among the teaching staff of the entire region was organised, followed by the formation of various pedagogical committees including advisers from all parts of the region who supervised the entire production process. Finally, teachers were specially trained for the best use of the materials.

A noteworthy feature of these materials is that they are rigorously based upon the goals set forth by the Ministry of Education so that teachers can make use of them for activities within the prescribed educational programmes. Each of the five manuals contains abundant complementary informations, training activities as well as reproduceable material. They have been presented in an attractive form and reproduction is encouraged to ensure the widest possible dissemination. Moreover, as they are all computer-based, their updating is easy and cheap.

The efforts that have gone into the preparation and production of these materials have been rewarded by the *Mérite environnemental québecois en éducation* prize and one of the video-documents was selected for projection at the *Festival international du film scientifique* of Montréal. They have also aroused a great deal of interest in other regions of Québec as well as in other countries.

More information from: *Ms Louise Landry, MADIE, 414 Collard O., Alma, Québec, Canada G8B 1N2. [Fax: (418) 668.02.65 Tel: (418) 668.79.76]*

THE USHUAÏA FOUNDATION

The Ushuaïa Foundation, based on the belief that **man exists within Nature and not alongside it**, was created in 1990 under the aegis of the Fondation de France with the support of the Electricité de France, Rhône Poulenc and the Paris municipality.

L'Association des Amis de la Fondation Ushuaïa is the secular branch of the Foundation which welcomes all those who share its aim: converting the current attitude towards Nature into one of greater awareness, caring and respect. The Foundation concentrates its efforts on creating awareness and a spirit of commitment among, as well as providing training to the youth through the following actions:

1. **Discovery missions:** These are divided into two categories: those for the 12-20 year age group and those for the 16-25 year group. Selected candidates are accompanied by specialists on missions to study natural environmental phenomena. On return they are expected to communicate their experience to the largest number of people possible as well as initiate actions of public interest.
2. **Funding:** The Foundation funds environment projects based on the protection, study, management etc. of the environment with accent on either the pedagogical dimension or accessibility to the general public.
3. **Pedagogical actions:** The Foundation is committed to the promotion of an Active Environmental Education and in this context has lent its support to various municipalities and publishing houses for actions at the school level as well as launching Ushuaïa Foundation clubs for those wishing to launch joint actions.
4. **Publications:** Since its creation, the Foundation has actively engaged in co-producing documents for the general public, three of them being produced in the current year. It has also collaborated with UNESCO, notably in the translation into French of a document entitled *"Environmental Education for Our Common Future"*, produced by the Norwegian National Commission for UNESCO and the UNESCO-UNEP International Environmental Education Programme (IEEP)

For more information contact: *Association des Amis de la fondation Ushuaïa, 32, Avenue Charles de Gaulle, 92200 Neuilly-sur-Seine, France. [Fax:(1) 46.41.00.42 Tel:(1) 46.41.03.03]*

CZECH CENTRE FOR ENVIRONMENTAL EDUCATION

RYCHORSKA BOUDA is the name of the Czech EE Centre located in the beautiful surroundings of the Krknose National Park in the Czech Republic. The centre offers training courses, workshops, seminars based on topics such as Nature, Nature conservation, Nature and History, Experiencing Landscape and Nature, as well as EE methods for Children, Youth and Adults. Other courses in the area of environmental protection, nature conservation, and EE can be designed upon request. Groups can also choose to develop their own curricula.

The staff is trained in unconventional and experiential methods of EE meant for the youth and the general public. Excursions, slide/video presentations, lectures, games... are some of the activities used in the courses.

The Centre can provide board and lodging for up to 42, is technically well-equipped and possesses a library with regional, environmental and educational literature.

It also publishes a Bulletin on EE called **Sysifos** jointly with the Foundation on EE (EVA) (*v. Connect, Vol.XVIII, no.2, June 1993*) and the Slovak National EE Centre. More information from: *Jiri Kulich/Tomas Pigula, CSEV Rychorska bouda, CS-542 26 Horni Marsov, Czech Republic. [Fax: 42-439-94-81 / 42-439-948-150]*

TREE MEMORIAL PROJECT

"SURVIVE AFTER DEATH IN THE FORM OF A TREE"

The **Mahatma Phule Samaj Seva Mandal** of Pothare, India, has launched a novel project called the **Tree Memorial Project**. The rationale of this project is to save wood/energy (in the case of cremation), and land in the case of the classical burial system by planting saplings, instead of placing tombstones, to mark graves. The resulting trees would thus serve the double purpose of tombstones as well a check, to a certain extent, to the process of deforestation which is a grave concern throughout the world, especially in the third world.

For details contact: *Promod Zinjade, Mahatma Phule Samaj Seva Mandal, A/p Pothare, Tal. Karmala, Dist. Solapur, 413 203, India.*

DOING IT AND TELLING IT

GAME THEORY TO SIMULATE LINKAGES BETWEEN CLIMATE AND FOOD PRODUCTION IN AFRICA

(IRELAND)

Place: University College, Cork, Ireland.

Target Groups: Third-level undergraduate students, senior second-level students (16-20 yrs) with no experience of Africa.

Introduction: The Game Theory is used to simulate linkages between climate and food production in a tropical susbistence community. Students take decisions with regard to the crops planted each year and are encouraged to identify the reasons for each choice. The crop yield is determined each year by the rainfall which is given by a pack of cards. The responses required by students in order to subsist and stay alive teach them that crop choices in such an uncertain environment are as much about survival as about making a surplus and profit.

Objectives:(a) To give students from a European (or another) background an awareness of food production issues in tropical environments; (b) To consider the range of possible responses to the uncertainty caused by a variable climate; (c) To explore climate-food-population linkages.

Resources: 25 cards for each group of 3-4 students, each card being marked VW (very wet), M (moist) or D (dry), to represent the type of rainy season; Peasants Gambit Sheet which shows the yields, in food units, of 3 different crops under the 3 possible rain conditions (Minimum required by a family - 15 units):

	Crop A	Crop B	Crop C
Very wet years (VW)	20	105	10
Moist years (M)	35	25	30
Dry years (D)	12	0	60

A supply of credits in units of 1,5 and 10. These cards showing credit values can be exchanged for surplus food production not stored in any one year or used to puchase food units when production is low. Each group has a "bank" with 20 of each unit; and A game sheet and pencil for each group to record what happens, in the following manner:

Year	Crop	Reasons	Weather	Yield	Action
1	B	highest profit possible	M	25	food: 15 store: 10 credit: 0
2					food: store: credit:

etc.

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Methodology: The cards are shuffled and set face downwards.

The group chooses a crop to grow. This is the first step at the beginning of each year, after consulting the gambit sheet as well as the state of the stored food and credits. The decision is recorded together with the reasons (though the latter can be recorded after discussion at the end of the game).

> *[**N.B.** A subsistence producer makes his choice of which crop(s) to grow based on expectations about the rainy season (a point for later discussion: do subsisting peasants have any choices?). Though for simplification only one crop can be chosen from 3, in reality subsistence systems frequently use multi-cropping - again, this can serve as a useful starting point since students at the end of the game might realize that a mixture of crops with different environmental tolerances is a better strategy than single crop growing.]*

The top card is played, which indicates the climate, and placed face up in another pile. Weather and crop yield are noted on the game sheet.

Crop yield is allocated.This must be divided between:

- food requirements (15 units) which must be met;
- store (maximum 15 units for next year, the excess to be emptied each year)
- credit (each surplus unit = 1 credit).

These decisions are entered on the game sheet.

Any food deficit is managed. When subsistence requirements are not met the group decides whether (1) the family goes hungry, (only allowed for one year - 2 successive deficit years eliminate the group) the following year's yield being reduced by 20%;

or (2) to buy food with the accumulated credits (2 credits = 1 food unit).

The game continues for a set time or a set number of years. Some groups will be eliminated as they fail to survive.

Evaluation: At least 10% of the time is used for evaluation. This is invariably carried out by class discussion because there is always a high level of interaction taking place within groups during the game. Two questions are asked and all the class responses are listed on the board before each is discussed: (i) What can the family do when the food runs out? (ii) What other actions could have been taken in real life at different stages in the play?

These summaries will involve discussion of ideas relating to use of land, other forms of income, migration, family planning etc. An essential part of the evaluation is to follow the game with reference to an actual case(s) so theory can be matched with reality. Older students can read up the case study, but pictures, diagrams and posters can also be used to illustrate the case.

Results: One of the most successful use of this teaching strategy was when the students were marked by the number of years they survived and/or the amount of food they managed to produce. It gave them a personal stake in the outcome of the exercise far beyond the curriculum element.

The learning experience of students throughout this game usually results in significant changes in their understanding of the tropical environent and the problems people have who depend upon it for their food supply. In particular they learn: (a) the importance of survival as the game proceeds, and they change their decisions accordingly; (b) the variety of results from the different class groups brings home the importance of human decision-making processes; and (c) the uncertainty of the environmental conditions shows that adaptation requires a diversity of food supplies and land uses.

Additionally, students have learnt that there are considerable possibilities for exploring problems using such teaching strategies. The older students have therefore tried out variants on the basic model, of which 3 have been developed:

1) The Climatic Variant in which the proportion of VW,M,D cards for each group are varied to form a climatic gradient across the classroom;
2) The Population Variant in which the subsistence requirement is increased by 5 units at regular intervals as the family increases;
3) The Land Variant in which additional units of land can be acquired, exchanging credits from surplus production for a limited number of "land cards" in a land bank, each card increasing the crop yield by 10%. These can also be traded between groups.

Sent by: *Dr. John G. Tyrell, Lecturer in Geography, University College Cork, Ireland. (Fax:353-21-271980 Tel:353-21-276871)*

*Readers are invited to send us their **FIELD experiences in EE** involving the teaching/learning process. They should be set out under the following headings: **Place, Target Groups, Introduction, Objectives, Resources, Methodology, Evaluation, Results** and should be as brief as possible. Selected experiences will be published together with the name and address of the author. Please address your contributions to: **Doing it and Telling it** (address on last page)*

EE NEWS & PUBLICATIONS

An Environmental Information Division has been established in the National Information and Documentation Centre for Science and Technology, of the Ministry of Science, Technology and Environment, in Hanoi, Vietnam. A national focal point of the Global INFOTERRA Network, this division provides information to domestic and international users. It also provides consultancy services, organizes seminars, workshops, training courses and research studies on the environment in Vietnam. For more information contact: Dr Nguyen Van Khanh, Director, NIDSCT & Vietnam INFOTERRA/ Mr Nguyen Hai Yen, Chief, Environmental Information Division, 24 Ly Thuong Kiet, Hanoi, Vietnam.

PUBLICATIONS

A new EE newsletter, **All of Us**, has been launched by the **Centre UNESCO de Catalunya**. The inaugural issue, no.1, September 1993, has *Biodiversity* as its theme with a lead article by Mr Federico Mayor Zaragoza, Director-General of UNESCO. The October issue, no.2, is devoted to *Climate Change*. The information provided in this 8-page newsletter is presented in a very clear manner with attractive colour photos, charts and illustrations. Available in English, French, Spanish and Catalan on request from: *Centre UNESCO de Catalunya, Mallorca 285, 08037 Barcelona, Spain.*

Industry and Environment Vol.16, no.1-2, January-June 1993, a publication of the UNEP IE/PAC, containing articles on *Transport and Climate change, Electric cars and the environment, Reducing road traffic emissions*, etc. as well as a **UNEP IE/PAC Activity Report 1992** supplement, has been published. The **APELL Newsletter**, (The newsletter of the UNEP IE/PAC network dedicated to **A**wareness and **P**reparedness for **E**mergencies at **L**ocal **L**evel) no.6, 1992-93, containing résumés of 10 country reports presented at its third Senior Level Expert Advisory Group Meeting (Paris, 30 november - 2 december 1992), is also distributed with this issue of **Industry and Environment**. Forthcoming issues of **Industry and Environment** will concentrate on the themes of *Managing contaminated land, Environmental education for industry* as well as *Climate change and industry*. For more information contact: *UNEP IE/PAC, Tour Mirabeau, 39-43 Quai André Citroën, 75739 Paris Cedex 15, France. (Fax: (33-1) 44.37.14.74)*

Recommendations of the workshop towards a **South and Southeast Asia Network for Environmental Education (SASEANEE)** organized by The World Conservation Union (IUCN) and Centre for Environment Education (CEE) in Ahmedabad, India, 10-12 February 1993 (*v. Connect, Vol.XVIII, No.1, March 1993*) have been published by the CEE. They are listed according to the subject matter of each of the 20 working groups: *School programmes, Higher Education, Decision makers, Training Environmental Educators, The Press...etc.* Moreover, each set of recommendations is preceded by a brief explanatory introduction followed by the precise needs and objectives in the matter for networking. The list of participants at the workshop is also provided. The CEE has also brought out the September issue of The **SASEANEE Circular**. Apart from information on SASEANEE, it contains regional reports, projects, training opportunities, events, clearing house, etc. Those interested may contact: *Centre for Environment Education, Nehru Foundation for Development, Thaltej Tekra, Ahmedabad 380 054, India. (Fax: 91-272-420242)*

Harvesting Nature's Diversity was the theme chosen by the Food and Agriculture Organization of the United Nations (FAO) for the World Food Day 1993, held on 16 October 1993 to mark the anniversary of FAO's founding on 16 October 1945. The theme focuses specifically on biodiversity and its contribution to humanity and food security, the aim being to increase awareness of the threat to biodivesity and to mobilize action to conserve this heritage and use it sustainably and equitably for present and future generations. A small and interesting pamphlet has been published on the theme to mark the World Food Day and can be obtained on writing to: *Food and Agriculture Organization of the UN (FAO), Viale delle Terme di Caracalla, 00100 Rome, Italy. (Fax: 57.97.51.55/ 57.97.31.52)*

The report of the British Council Seminar on **Environmental Education in Schools**, Manchester, U.K., 16 March 1993, is now available. It contains a list of participants, the programme of the day, guidelines for project implementation in general as well as for initiation and implementation of EE in schools, and four case studies. Free of charge on writing to: *Helen Davies, Education Department, The British Council, Medlock Street, Machester M15 4AA, U.K.* (Also available *only for reference* at all British Council offices overseas).

The **Manual of European Environmental Law,** produced under the auspices of the CRE's (Standing Conference of Rectors, Presidents and Vice-Chancellors of the European Universities) project Copernicus, with the support of UNESCO and the European Community (EC) as a contribution to the implementation of the UN Earth Summit Agenda 21, has just been published. It provides a detailed overview of the complex and distinct body of European environmental law and has been written for a multi-disciplinary audience. In Part One the authors discuss the history, basic concepts, institutions and legal techniques of environmental protection in Europe. In Part Two they provide a detailed analysis of each environmental sector whereas Part Three presents trans-sectoral problems including the role of the public and non-governmental organizations in combating environmental harm. 650pp. Inquiries for price and mailing conditions should be addressed to: *Grotius Publications Limited, P.O.Box 115, Cambridge CB3 9BP, U.K. (Fax: [44] 0223.31.10.32 Tel: [44] 0223 32.34.10).*

The conference on **Environmentally Sound Socio-Economic Development in the Humid Tropics**, Manaus, Brazil, 13-19 June 1992, organized jointly by the Association of Amazonian Universities (UNAMAZ), The Man and the Biosphere (MAB) programme of UNESCO, the United Nations University (UNU) and the Third World Academy of Sciences (TWAS) as the first follow-up to the UNCED, is at the origin of a publication entitled **Environmentally Sound Socio-Economic Development in the Humid Tropics: Perspectives from Asia and Africa**. Published by the UNU, it features a

selection of the papers concerned with field research in Asia and Africa carried out under the auspices of either UNU or UNESCO. Copies of the publication can be obtained through: *UNESCO, Division of Ecological Sciences, 1 rue Miollis, 75732 Paris Cedex 15, France* or *UNU, Academic Division, 53-70, Jingumae 5-chome, Shibuya-ku, Tokyo 150, Japan.*

The **South Asia Co-operative Environment Programme (SACEP) Newsletter**, vol.13, July-September 1993, is out. It contains news about the environment - events, courses, information - in South Asian countries. The newsletter is distributed free to National Environmental Agencies, NGOs, Citizens' groups and mass media and welcomes news items, short articles and viewpoints on environmental issues for the promotion of environmental awareness in the South Asian region. Further information from: *SACEP Secretariat, 84 Lorensz Road, Colombo 4, Sri Lanka.*

Both Ends, an environment and development service for NGOs, has published a guide on Dutch environment and development organizations entitled **Green and Grey below sea-level**. It provides an overview of groups, organizations and institutions in the Netherlands engaged in the field of environment and development. Arranged according to type, each organization is described separately with objectives, strategies, activities and target groups. The guide is intended particularly for organizations and persons in the South who are looking for specific information, funds or ways to enhance cooperation and dialogue. 84 pp. Price: Europe Dfl 20 - Other countries US$15 (incl.shipping). Further information from: *Both Ends, Damrak 28-30, 1012 LJ Amsterdam, The Netherlands.(Fax: 31.20.6208049)*

COURSES, WORKSHOPS, MEETINGS

The 19th Session of the **IUCN - World Conservation Union General Assembly** will take place from 17-26 January 1994 in Buenos Aires, Argentina. Apart from the usual work of the Assembly which notably includes the Reports of the Commissions on Ecology, Education and Communication, Environmental Law, Environmental Strategy and Planning etc., the IUCN's Environmental Education Programme (EEP) for the 1994-1996 triennium will be established at this session. The main objective for the EEP in the coming triennium is *"to develop and support the Commission on Education and Communication and its regional networks as a means of building capacity for and influencing education planning and practice in the Union"*. For details contact: *IUCN, Rue Mauverney 28, CH-1196 Gland, Switzerland. [Fax:(4122) 999.00.02 Tel:(4122) 999.00.01]*

The University of Strathclyde offers a **Certificate Course in EE** for experienced professionals from Europe and the developing world engaged in the promotion of EE through curriculum development processes of conservation projects. The 12-week course is conducted in groups of 12-16 and takes place 3 times/year on the Jordanhill Campus, the largest teacher education institution in the U.K., where the WWF (U.K.) has also established an EE resource centre. Currently, the British Council, ODA and the European Commission support about half of each group taking the course while WWF and the World University Service sponsor the others. For further information contact: *University of Strathclyde, Glasgow, Scotland, U.K.*

Caretakers of the Environment have announced their 8th Annual Conference to be held in Aberdeen, Scotland, 13-18 June 1994 whose theme will be **Sustainability**. The issue of sustainability will be explored in relation to the environment of North-East Scotland. The conference programme will include a mixture of discussion and practical fieldwork activities in and around the Aberdeen area. The main activities will be conducted in English and Spanish. Open to secondary school teachers and students. More information from: *Caretakers of the Environment, Dyce Academy, Riverview Drive, Dyce, Aberdeen AB2 0NF, Scotland. (Fax: 224-772571)*

The **International Association for Community Development** has announced its next international conference to be held at Cotonou, Benin, from 5 - 9 December 1994. The theme will be **"Community action for sustainable development and reinforcement of democracy"**. Those interested should contact: *Association internationale de développement et d'action communautaires, rue du Débarcadère 179, 6001 Marcinelle, Belgique. (Fax: 071-47.11.04)*

VIEWPOINT

If you have something concerning EE to communicate to us - information, suggestions, opinions, ideas - on events or even the articles in Connect, write to us - briefly. The most interesting letter(s) will be published, in substance, together with the sender's name. Send your letters to ***Viewpoint***, address below.

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